Remedial Action Work Plan

399 Ohio Street Site
(C915287)
Buffalo, New York

June 2016 0136-013-011

Prepared for:

1093 Group, LLC

Prepared By:

Benchmark Environmental Engineering & Science, PLLC

In Association With:

TurnKey Environmental Restoration, LLC

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REMEDIAL ACTION WORK PLAN

399 OHIO STREET SITE
BUFFALO, NEW YORK
BCP SITE No. C915287

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RESTORATION, LLC

Certification

I, Thomas H. Forbes, certify that I am currently a NYS registered professional engineer and that this June 2016 Remedial Action Work Plan (RAWP) for the 399 Ohio Street Site (C915287) was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

_____

Date

REMEDIAL ACTION WORK PLAN

399 Ohio Street Site

Buffalo, New York

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1.0 INTRODUCTION

Benchmark Environmental Engineering and Science, PLLC (Benchmark), in association with TurnKey Environmental Restoration, LLC (TurnKey), referred to herein as Benchmark-TurnKey, has prepared this Remedial Action (RA) Work Plan on behalf of 1093 Group, LLC. 1093 Group, LLC has elected to pursue cleanup and redevelopment of the property, located at 399 Ohio Street, Buffalo, New York (see Figures 1 and 2), under the New York State Brownfield Cleanup Program (BCP or Program) and executed a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC).

This document presents the scope of work and procedures for completion of planned remedial activities on the Site, in accordance with the approved Alternatives Analysis report (revised December 2015) and the NYSDEC prepared and approved Decision Document (December 2015). The remedial activities will be completed by remedial construction contractors under contract to 1093 Group, LLC and/or Benchmark-TurnKey. The work will be completed in general accordance with 6NYCRR Part 375 and NYSDEC DER-10 guidelines.

1.1 Site Background

The BCP Site consists of an approximate 5.0 acre portion of a larger 7.26 acre property, located in a highly developed mixed use industrial, commercial, residential, and recreational area of the City of Buffalo, Erie County, New York (see Figures 1 and 2). The Site is currently improved with an approximately 10,000 square foot vehicle maintenance and office building with the remainder of the Site currently covered by asphalt/concrete.

The Site has a long history of industrial and commercial operation, which has contaminated the Site. The Site has been utilized for various industrial and commercial operations since at least 1889. Operations included rail lines, material handling and shipping equipment maintenance, and the use and storage of paints, solvents, thinners, greases, hydraulic oils and lubricants common among former commercial operations. More recent property uses have included the operation of bus and trucking terminal and maintenance operations, including the placement of underground storage tanks (USTs), aboveground storage tanks (ASTs) and fuel dispensing pump(s), and the likely use and storage of

automotive lubricants, oils, degreasers, solvents, grease, paints, thinners, and waste oils common for vehicle maintenance operations.

Previous environmental investigations completed across the Site have revealed evidence of environmental contamination related to the former use of the Site. Evidence of petroleum contamination, elevated polycyclic aromatic hydrocarbons (PAHs), and metals have been detected on Site exceeding 6NYCRR Part 375 Commercial Soil Cleanup Objectives (SCOs).

1.2 Previous Environmental History

A summary of the findings of the environmental investigations completed at the Site is provided below. Figure 3 shows the historic and RI sample locations.

1.2.1 June 1995 – Site Inspection Report

Buffalo Drilling Company, Inc. completed a Site Inspection Report on several Ohio Street properties, including the 399 Ohio Street Site. Findings for the 399 Ohio Street Site inspection completed in June 1995 are summarized below.

- Potential field evidence of petroleum contaminated soil was noted.
- Railroad spurs were located on Site.

1.2.2 November 2005 – Phase I Environmental Site Assessment

Construction Lending Services, Inc. (CLS) completed a Phase I Environmental Site Assessment (ESA) on the southern portion of the Site, and the findings are summarized below.

- Past use of the property included automotive repair operations, including multiple USTs, a pump island, and ASTs.
- Storage of 55-gallon drums of suspect oil.
- Presence of floor drain in the maintenance pit and trench drench drains in the floor, with unknown discharge points.
- Staining noted proximate waste oil/grease storage area.
- Railroad spurs were noted historically on Site. Rail operations are frequently associated with elevated levels of semi-volatile organic compounds (SVOCs) and metals.

- City of Buffalo historic permit records indicate the potential for at least three (3) USTs on Site. NYSDEC PBS database records show two (2) ASTs had been located on Site

1.2.3 November 2013 – Limited Phase II Environmental Investigation Report

TurnKey completed a Limited Phase II Environmental Investigation Report in November 2013. Findings of the Limited Phase II investigation are listed below.

- Seven (7) test pits were advanced to further investigate the site (399 Ohio Street).
- Some of the soils exhibited visible (black staining) olfactory (petroleum odors) evidence of subsurface contamination;
- Subsurface soil analytical results indicate elevated polycyclic aromatic hydrocarbons (PAHs) above Part 375 Commercial Use Soil Cleanup Objectives (SCOs) and metals, including arsenic, cadmium, chromium, lead, silver, and mercury, above their respective Part 375 Unrestricted, Restricted-Residential and/or Commercial Use SCOs across the Site.

1.2.4 Remedial Investigation / Alternatives Analysis Report (RI/AAR)

A Remedial Investigation was completed to more fully characterize the Site in accordance with the BCP requirements. The RI included the advancement of test pits and soil borings, and installation of monitoring wells to assess soil and groundwater at greater depths than previous investigations, and the collection of soil and groundwater samples. A soil vapor intrusion assessment was also completed in the existing building.

Based on the results of the previous investigations and the RI, it was determined that remediation of the Site was necessary. A RI/AAR was prepared to provide a summary of the investigations, and complete and assessment of remedial alternatives capable of achieving the Remedial Action Objectives (RAOs) for the Site. Details of the environmental conditions and RAOs are provided below.

1.2.5 Summary of Environmental Conditions

Based on the Remedial Investigation and historic investigations, the following environmental conditions exist at the Site:

Geology/Hydrogeology

- Three (3) distinct soil/fill horizons were described on-Site, including the overburden fill layer, ranging from 1-7 fbgs, a reworked soil/fill layer, with significantly less fill than above, ranging from 6-12 fbgs, and a native silty lean clay and sand ranging from 12 to at least 25 fbgs.
- The uppermost water bearing unit was encountered at the soil/fill clay interface, ranging from 3-8 fbgs. Groundwater from the underlying native lean clay was typically encountered between 15 and 20 fbgs.

Summary of RI Data by Media

Subsurface Soil

- No VOCs were detected above RRSCOs, with the vast majority of results being reported as non-detect or estimated values by the laboratory. Only one (1) constituent was detected above USCOs, at one location, TP-20 (2-5').
- SVOCs were detected above CSCOs in seven (7) of the RI subsurface sample locations, including; SB-2, TP-9, TP-14, TP-18, TP-19, TP-20, and TP-21. Primarily polycyclic aromatic hydrocarbons (PAHs) were detected above their respective USCOs, RRSCOs, and CSCOs (see Table 3).
- Two (2) metal analytes were detected above their respective CSCOs including arsenic and cadmium. Arsenic was detected above CSCOs at TP-2 (1-3') and TP-9 (2-5'). Lead was detected above its RRSCO at several locations, and certain naturally occurring metals were also detected above their respective USCOs (See Table 3).
- No PCBs were detected above RRSCOs. PCBs were detected slightly above its USCO in TP-21 (2-5').
- No pesticides or herbicides were detected above CSCOs or RRSCOs. Select pesticides were detected above their respective USCOs in TP-9 (2-5'). No herbicides were detected above their respective USCOs.

Groundwater

- No VOCs were detected above GWQS/GVs.
- Five (5) PAHs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, Bis(2-ethylhexyl), phthalate, and chrysene exceeded their respective GWQSs.
- Three (3) metals (lead, manganese, and selenium) exceeded their respective GWQS/GVs.
- One (1) pesticide (4,4'-DDT) and one (1) herbicide (Chlordane) exceeded their respective GWQS/GVs in one location each.

Soil Vapor

- Subslab vapor, indoor air and outdoor air sample results were reported as ND or indicated "No Further Action (NFA)", with the minor exception of carbon tetrachloride and 1,1,1-trichloroethane which indicated "take reasonable and practical actions to identify source(s) and reduce exposures (I,R)." It is important to note that the concentrations of carbon tetrachloride and 1,1,1-trichloroethane were greater in the indoor ambient air sample than the subslab vapor concentrations for the compounds, indicating the source is not from the subsurface. The building is used to store vehicles, lawn maintenance equipment, and associated lubricants and maintenance liquids.

1.3 Primary Constituents of Concern (COCs)

Based on findings of the RI and previous investigations and the approved-Decision Document, the site-specific Constituents of Concern (COCs) are comprised of PAHs and metals.

1.4 Site-Specific Action Levels/Cleanup Goals

Site-specific action levels (SSALs) were developed for the Site. These SSALs were developed based on the planned removal of potential source areas, including areas that have a greater potential for contaminant migration, and the feasibility of achieving the SSALs based on the nine factors outlined in 6NYCRR Part 375-1.8(f) described below.

- In addition to 6NYCRR Part 375 SCOs, and CP-51 guidelines, the following SSALs were developed and used to designate soil/fill requiring remediation: Total PAHs >100 mg/kg in surface soil/fill

- Total PAHS > 500 mg/Kg in subsurface soil/fill beneath the cover system
- Elevated PID readings above 100 ppm for nuisance petroleum odors

1.5 Remedial Action Objectives

The remedial actions for the 399 Ohio Street must satisfy Remedial Action Objectives (RAOs). Remedial Action Objectives are site-specific statements that convey the goals for minimizing substantial risks to public health and the environment. For the Site, appropriate RAOs have been defined as:

Groundwater:

RAO for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact from contaminated groundwater.

RAO for Environmental Protection

- Remove the source of ground or surface water contamination.

Soil:

RAO for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAO for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

In general, the selected remedy includes: excavation and off-site disposal of soil/fill exceeding SCOs/SSALs, Engineering Controls (ECs) in the form of a cover system, and Institutional Controls (ICs) in the form of a Site Management Plan and Environmental Easement.

1.6 Project Organization and Responsibilities

1093 Group, LLC was accepted into the BCP as a non-responsible party (volunteer) per ECL§27-1405. Benchmark-TurnKey will manage the brownfield cleanup on behalf of 1093 Group, LLC. The NYSDEC Division of Environmental Remediation (Region 9), in consultation with the New York State Department of Health (NYSDOH) shall monitor the remedial actions to verify that the work is performed in accordance with the Brownfield Cleanup Agreement, the approved RA Work Plan, and NYSDEC DER-10 guidance.

2.0 PRE-REMEDIATION TASKS

2.1 Public Information and Outreach

A fact sheet containing information about the planned remedial work will be sent to those individuals on the Brownfield Site Contact List, including subscribed property owners and residents adjacent to the Site, environmental groups, local political representatives, and interested regulatory agencies. Furthermore, a copy of this Work Plan will be made available for public review at the NYSDEC Region 9 office and the Erie County Public Library, the designated document repository.

2.2 Underground Utilities Location

The remediation contractor will contact underground facilities protection organization (Dig Safely New York, UFPO) to locate utility lines within the work area.

2.3 Health and Safety Plan Development

A Health and Safety Plan (HASP) will be prepared and enforced by the remediation contractor in accordance with the requirements of 29 CFR 1910.120. The HASP will cover all on-site remedial activities. Benchmark-TurnKey will be responsible for Site control and for the health and safety of its authorized site workers. Benchmark-TurnKey's HASP is provided for informational purposes in Appendix A. The remediation contractor will be required to develop a HASP as or more stringent than Benchmark-TurnKey's HASP.

2.4 Mobilization and Site Preparation

The remediation contractor's field operations at the Site will commence with mobilizing equipment and materials to the Site and erecting safety fencing and other temporary controls as described below.

2.5 Temporary Facilities and Controls

Temporary facilities for use during the remedial work may include a construction field trailer and portable toilets. Temporary controls will be employed for protection against

off-site migration of soil and safety hazards during construction, including safety fencing, dust suppression, and erosion control as further described below.

2.5.1 Access Controls

Daily work areas will be identified with construction cones and/or temporary fencing. Work areas will be determined daily based on the planned remedial activities, and may be changed throughout the work day to ensure safe operations. Access control will consider site worker and general public safety, and tenant access requirements.

2.5.2 Dust Monitoring and Controls

A Community Air Monitoring Plan (CAMP), as more fully described in Section 4.1, will be implemented during Site excavation work. If community air monitoring indicates the need for dust suppression or if dust is visually observed leaving the Site, the remediation contractor will apply a water spray across the excavation and surrounding areas, and on Site haul roads as necessary to mitigate airborne dust formation and migration. Potable water will either be obtained from a public hydrant or provided by the on-site water service, if available.

2.5.3 Storm Water Pollution Prevention Plan

A Storm Water Pollution Prevention Plan (SWPPP) was prepared for the Site, and has been approved by the NYSDEC and the local municipal separate storm sewer system (MS4) operator (i.e., City of Buffalo). Electronic copies of the SWPPP, Notice of Intent (NOI) and MS4 approval have been provided to the Department for reference. A copy of the SWPPP and approvals are provided electronically in Appendix B.

3.0 CLEANUP APPROACH

The NYSDEC approved Alternatives Analysis Report and Decision Document (DD) identified the cleanup approach for the Site. Specifically, the selected remedy is a Restricted Residential Track 4 approach incorporating the following major remedial elements:

- Excavation and off-site disposal of soil/fill exceeding SCOs/SSALs, specifically petroleum-impacted, PAH- and metals-impacted soil/fill in the vicinity of TP-9, TP-2, and TP-18, respectively.
- Collection of post-excavation confirmatory samples, in accordance with DER-10.
- Placement of a site cover system.
- Development of a Site Management Plan (SMP) for post-certificate of completion (COC) operation, maintenance and monitoring.

3.1 Waste Characterization

Waste characterization samples will be collected in accordance with the disposal and/or recycling facilities requirements. Pre-characterization of the soil will allow for direct loading and off-site transportation at the time of the impacted soil removal. Based on the results of the waste characterization sampling, impacted soil will be managed according to all federal, state and local waste disposal regulations.

3.2 Remedial Excavation Activities

Based on the findings of the RI, approximately 650 CY of shallow metals-, PAH- and/or nuisance petroleum-impacted soil/fill in the vicinity of TP-2, TP-9, and TP-18, will be excavated and disposed off-site (see Figure 4). All excavation work will be directed by an experienced Benchmark-TurnKey professional to remove impacted material. Lateral and vertical excavation will continue to feasible limits until impacted soil/fill is removed, SCOs/SSALs are met, excavation has reached the property line and/or utility, or NYSDEC agrees that no further excavation is required.

Following completion of the remedial excavations, all exposed soils not otherwise covered by the components of the redevelopment of the site (e.g., buildings, pavement) will be covered by material meeting the requirements of the generic soil cleanup table contained in DER-10, Appendix 5 for the applicable future site use (i.e., Restricted Residential). A PID

and visual/olfactory observations will be used to screen soil/fill materials and assist in verifying removal of impacted soil/fill.

3.3 Post-Excavation Confirmation Sampling

Post excavation confirmatory samples will be collected from each remedial excavation area in accordance with DER-10. A minimum of one sample per 30 linear feet of sidewall and one sample for each 900 square feet of excavation bottom will be collected. All samples will be analyzed for each area, including:

- TP-2 – RCRA metals
- TP-9 – TCL VOCs and TCL SVOCs
- TP-18 – Total PAHs

Post-excavation confirmatory samples will be analyzed by a NYSDOH ELAP certified analytical laboratory in accordance with latest USEPA SW-846 Methodology with an equivalent Category B deliverables package to facilitate data evaluation by a third-party validation expert. Expedited turnaround times may be requested for the analytical results to minimize the time that the excavation(s) remains open.

If differentiable soil/fill material is encountered during the remedial excavation, additional sampling will be discussed with the Department.

3.4 Off-Site Transportation and Disposal of Non-Hazardous Soil/Fill

Excavated non-hazardous soil/fill will be transported off-site for disposal at a permitted commercial solid waste disposal facility by licensed haulers. Disposal documents will be provided in the Final Engineering Report.

3.5 Placement of Backfill

Backfilling will closely follow the excavation work to minimize the amount of open excavation. However, backfill soil will be maintained at a sufficient distance from the working face of the excavation to prevent contact or mixing with fill soils designated for removal. Wetting of the backfill soil during placement, spreading, and compaction will be

performed as required to control fugitive dust within the Community Air Monitoring Plan action limits.

3.5.1 Acceptable Backfill Materials

In accordance with DER-10, backfill material used on-site may consist of the following materials:

- Gravel, rock, or stone, consisting of virgin material, from a permitted mine or quarry may be imported, without chemical testing, if it meets the requirements of DER-10, or as otherwise approved by NYSDEC.
- Recycled concrete or brick from a NYSDEC-registered construction and demolition debris processing facility may be imported, without chemical testing, if it meets the requirements of DER-10, or as otherwise approved by NYSDEC.
- Imported soil/fill originating from known off-site sources having no evidence of disposal or releases of hazardous substances, hazardous, toxic or radioactive wastes, or petroleum that meets the chemical criteria of Table 1. No off-site materials meeting the definition of a solid waste as defined in 6NYCRR, Part 360-1.2(a) shall be used as backfill.
- On-site reuse of soil/fill which meets Part 375 Commercial Use SCOs and is free from visual and olfactory evidence of impact, including material which complies with the CP-51 total PAHs less than 500 ppm, beneath the cover system demarcation layer.
- On-site crushed concrete/brick with no visible or olfactory evidence of impacts.

3.5.2 Backfill Characterization Requirements

In addition to the above criteria, backfill materials being imported to the Site will be subject to the following characterization requirements in accordance with DER-10 Table 5.4(e)10:

Required Minimum Number of Soil Samples for Soil Imported to a Site			
Soil Quantity (CY)	VOCs	SVOCs, Inorganics & PCBs/Pesticides	
	Discrete Samples	Composite	Grab/Composite Samples
0-50	1	1	3-5 grab samples from different locations in the fill being provided will comprise a composite sample for analysis.
50-100	2	1	
100-200	3	1	
200-300	4	1	
300-400	4	2	
400-500	5	2	
500-800	6	2	
800-1,000	7	2	
>1,000	Add an additional 2 VOC and 1 composite for each additional 1,000 CY or consult with DER		

Each composite sample will be comprised of a minimum of three grab samples (samples for VOC analysis will be collected as individual grabs in lieu of composites). Samples will be analyzed for the following constituents in accordance with USEPA SW-846 methodology:

- TCL VOCs – Method 8260C
- TCL SVOCs – Method 8270D
- TAL Metals – Method 6010B
- TCL Organochlorine Pesticides and PCBs – Method 8081A/8082

Characterization testing will be performed by an independent, NYSDOH ELAP-approved laboratory. An equivalent Category B deliverables package will be furnished with the data to allow data evaluation and preparation of a Data Usability Summary Report by an independent, third party data validation expert. Quality Assurance (QA) samples will be collected to support the data evaluation. The QA samples will include a minimum of one matrix spike, one matrix spike duplicate, and one blind duplicate per 20 verification samples.

Based on the source and initial off-site source material analytical results, a reduced sampling frequency may be requested. Written request to reduce backfill source sampling requirement will be submitted to the Department for approval prior to any modification of sampling frequency.

3.6 Groundwater Management

Water removed from excavations and surface water run-in to excavations during the impacted soil removal will be handled on-site prior to discharge to the municipal sewer. In general, water removed from excavations will be stored/settled in a portable 21,000-gallon storage tank, and if deemed necessary, will be pumped through a bag or cartridge filter prior to treatment using granular activated carbon (GAC). Following completion of excavation work, settled solids remaining in the tank and spent filter bags will be disposed of off-site.

If the accumulated waters required treatment, the spent GAC will be characterized and regenerated off-site, or disposed at a permitted disposal facility in accordance with applicable federal and state regulations. The storage tank will be decontaminated via pressure washing. Benchmark-TurnKey or the Site owner will coordinate with the City of Buffalo to obtain any necessary temporary sewer discharge permits.

3.7 Soil Cover System

Historic sampling results indicate that certain metals and PAHs are present in surface/near-surface soil/fill on-site above Part 375 Restricted-Residential Use SCOs. The remedial evaluation conducted in the RI/AA Report concluded that a Track 2 Restricted Residential cleanup remedy was not practicable; therefore, placement of a soil cover system is a feasible engineering control to protect human health and the environment. The soil cover system will be comprised of:

- **Non-Vegetated Areas:** These areas will be covered by an asphalt/concrete paving system, building foundations approximately 4 to 6 inches thick; or recycled on-site concrete/brick materials, or approved off-site source backfill material compacted to at least 24 inches thick. Cover materials will be tested in accordance with Table 5.4(3)10 of DER-10 (refer to Section 3.4.1), or as otherwise approved by NYSDEC.
- **Vegetated Areas:** A minimum of 24 inches of imported backfill or re-used on-site soil/fill, tested and determined to meet RRSCOs and not exhibit nuisance characteristics (visual and olfactory), will be placed. The uppermost approximate four inches should be comprised of soil capable of sustaining plant growth. Non-grassed areas (e.g., landscape shrubs/beds) will be covered with chip mulch, stone, or other material to mitigate erosion around plantings.

- **Demarcation Layer:** A demarcation layer (e.g., snow fence, plastic mesh, etc.) will be placed beneath the soil cover system where hardscape (concrete/asphalt) will not be present.

Figure 5 present the planned cover system layout and details.

The planned cover system includes different cover types, including hard-scape (new building, asphalt and concrete), with non-hardscaped areas, including landscaped beds and grass areas. Where soil cover system transitions to hardscape, and at the limits of the BCP property, the cover will be keyed-in as necessary to achieve the minimum 24-inches of approved backfill material without tapering as shown on Figure 5.

3.8 Site Management Plan

For any BCP site not cleaned up to NYSDEC Part 375 Unrestricted Use SCOs, preparation of a Site Management Plan (SMP) that describes site-specific Institutional Controls and/or Engineering Controls (IC/EC) is a required component of the final remedy. Therefore, as part of the final remedy for the three BCP Sites, an SMP will be prepared. Consistent with NYSDEC BCP requirements, the SMP will include the following components:

- **Engineering and Institutional Controls Plan**. Engineering controls include any physical barrier or method employed to actively or passively contain, stabilize, or monitor contaminants; restrict the movement of contaminants; or eliminate potential exposure pathways to contaminants. Institutional controls at the site will include groundwater use restrictions and use restrictions of the site to restricted-residential, commercial or industrial purposes.
- **Operation and Maintenance Plan** that describes the measures necessary to operate, monitor, and maintain the soil cover system.
- **Excavation Work Plan** to assure that post-remediation intrusive activities and soil/fill handling at the Property related to redevelopment, operation, and maintenance are completed in a safe and environmentally responsible manner.
- **Site Monitoring Plan** that includes: a Property-wide inspection program to assure that the IC/ECs remain effective.
- **Environmental Easement** filed with Erie County.

4.0 REMEDIAL ACTIVITIES SUPPORT DOCUMENTS

4.1 Health and Safety Protocols

Benchmark-TurnKey has prepared a Health and Safety Plan (HASP) for use by our employees in accordance with 40 CFR 300.150 of the NCP and 29 CFR 1910.120. The HASP, provided in Appendix A, includes the following site-specific information:

- A hazard assessment.
- Training requirements.
- Definition of exclusion, contaminant reduction, and other work zones.
- Monitoring procedures for Site operations.
- Safety procedures.
- Personal protective clothing and equipment requirements for various field operations.
- Disposal and decontamination procedures.

The HASP also includes a contingency plan that addresses potential site-specific emergencies, and a Community Air Monitoring Plan that describes required particulate monitoring to protect the neighboring community during intrusive site remediation activities.

Health and safety activities will be monitored throughout the remedial field activities. A member of the field team will be designated to serve as the Site Safety and Health Officer (SSHO) throughout the field program. This person will report directly to the Project Manager and the Corporate Health and Safety Coordinator. The HASP will be subject to revision as necessary, based on new information that is discovered during the field investigation and/or remedial activities.

4.1.1 Community Air Monitoring

Real-time community air monitoring will be performed during intrusive remedial activities at the Site. A CAMP is included with Benchmark-TurnKey's HASP. Particulate and VOC monitoring will be performed along the downwind perimeter of the work area during excavation, grading and soil/fill handling activities in accordance with this plan. Upwind concentrations will be field monitored at the start and periodically throughout the

work day. Monitoring locations will be evaluated throughout the work day, as described in the CAMP. The CAMP is consistent with the requirements for community air monitoring at remediation sites as established by the New York State Department of Health (NYSDOH) and NYSDEC. Accordingly, it follows procedures and practices outlined under NYSDEC's DER-10 (May 2010) Appendix 1A (NYSDOH's Generic Community Air Monitoring Plan) and Appendix 1B (Fugitive Dust and Particulate Monitoring).

4.2 Citizen Participation Activities

NYSDEC will coordinate and lead community relations throughout the course of the project with support from Benchmark-TurnKey as requested. A Citizen Participation (CP) Plan has been prepared by Benchmark-TurnKey and approved by NYSDEC. A copy of the CP Plan has been placed in the Buffalo and Erie County Public Library, the designated project document repository. The NYSDEC, with input from Benchmark-TurnKey and 1093 Group, LLC, will issue project fact sheets to keep the public informed of remedial activities.

5.0 REPORTING

5.1 Remedial Activities Reporting

Benchmark-TurnKey will be on-Site full-time during the remedial actions to document remedial activities. Monitoring and documentation of the RA activities will include: construction stake-out; record drawings; daily reports of activities; community air monitoring results; post-injection sampling and analysis; and progress photographs and sketches.

5.1.1 Field Construction Monitoring

Standard daily reporting procedures will include preparation of an Inspector's Daily Report and, when appropriate, problem identification and corrective measures reports. Appendix C contains sample project documentation forms. Information that may be included on the daily report form includes:

- Processes and locations of construction under way.
- Equipment and personnel working in the area, including subcontractors.
- Number and type of truckloads of soil/fill removed from the site.
- Approximate sampling locations (sketches) or GPS (Trimble) coordinates and sample designations for pre-excavation characterization.
- Excavation locations and depths being excavated.

The completed reports will be available on-site and submitted to the NYSDEC as part of the Final Engineering Report. The NYSDEC will be promptly notified of problems requiring modifications to this Work Plan prior to proceeding or completion of the construction item.

Photo documentation of the remedial activities will be prepared by a field representative throughout the duration of the project as necessary to convey typical work activities, changed conditions, and/or special circumstances.

5.2 Final Engineering Report

A Final Engineering Report (FER) will be prepared at the conclusion of remedial activities. The FER will include the following information and documentation, consistent with the NYSDEC's DER-10 Technical Guidance for Site Remediation:

- Introduction and background.
- A Site or area planimetric map showing the parcel remediated, including significant site features.
- A Site map showing the lateral limits of any excavations.
- Tabular summaries of unit quantities including: volume of soil excavated and disposition of excavated soil.
- Documentation on the disposition of impacted soil removed from the Site.
- Documentation of the cover system, including survey elevations and licensed professional engineer stamped record drawings.
- Copies of daily inspection reports and, if applicable, problem identification and corrective measure reports.
- Photo documentation of remedial activities.
- Text describing the remedial activities performed; a description of any deviations from the Work Plan and associated corrective measures taken; and other pertinent information necessary to document that the Site activities were carried out in accordance with this Work Plan.

In addition, Benchmark-TurnKey will subcontract for third-party data review of post-excavation verification data by a qualified, independent data validation expert. Specifically, a Data Usability Summary Report (DUSR) will be prepared, with appropriate data qualifiers added to the results. The DUSR format will follow the NYSDEC's September 1997 DUSR guidelines and draft DER-10 guidance. The DUSR and any necessary qualifications to the data will be appended to the FER.

5.3 Site Management Plan

As described in Section 3.9, a SMP will be submitted for the Site. The SMP will include an: Engineering and Institutional Control Plan; Excavation Plan; a Site Monitoring Plan; and, an Environmental Easement.

6.0 PROJECT SCHEDULE

The anticipated project schedule for the major tasks to be performed during implementation of the Remedial Action Work Plan are planned as follows:

- *Spring-Summer 2016 – Complete remedial activities and redevlopment activities;*
- *August 2016 – Submit Draft Site Management Plan (SMP)*
- *October 2016 – Submit draft Final Enigineering Report (FER) and final SMP*
- *November 2016 – Submit final FER*
- *December 2016 - Receive Certificate of Completion (COC)*

7.0 REFERENCES

1. Buffalo Drilling Company, Inc. Site Inspection Report, 399 Ohio Street, Buffalo, New York. June 1995.

2. Construction Lending Services, Inc. (CLS). Limited Phase I Environmental Site Assessment Report, 399 Ohio Street, Buffalo, New York. November 2005.

3. TurnKey Environmental Restoration, LLC. Limited Phase II Environmental Investigation Report, 399 Ohio Street, Buffalo, New York. November 2013.

4. TurnKey Environmental Restoration, LLC. Remedial Investigation Work Plan, 399 Ohio Street Site (C915287), Buffalo, New York. rev November 2014.

5. TurnKey Environmental Restoration, LLC, in association with Benchmark Environmental Engineering & Science, PLLC, Remedial Investigation/Alternative Analysis Report (RI/AAR) Report, 399 Ohio Street Site, Buffalo, NY, BCP Site No. C915287, prepared for 1093 Group, LLC. rev December 2015.

6. New York State Department of Environmental Conservation. DER-10; Technical Guidance for Site Investigation and Remediation. May 2010.

TABLE

TABLE 1

CRITERIA FOR USE OF OFF-SITE SOIL

REMEDIAL ACTION WORK PLAN
399 OHIO STREET SITE
BUFFALO, NEW YORK

Parameter	Allowable Concentration[1] for Use of Off-Site Soil
Volatile Organic Compounds (mg/kg)	
1,1,1-Trichloroethane	0.68
1,1-Dichloroethane	0.27
1,1-Dichloroethene	0.33
1,2-Dichlorobenzene	1.1
1,2-Dichloroethane	0.02
1,2-Dichloroethene(cis)	0.25
1,2-Dichloroethene(trans)	0.19
1,3-Dichlorobenzene	2.4
1,4-Dichlorobenzene	1.8
1,4-Dioxane	0.1
Acetone	0.05
Benzene	0.06
Butylbenzene	12
Carbon tetrachloride	0.76
Chlorobenzene	1.1
Chloroform	0.37
Ethylbenzene	1
Hexachlorobenzene	1.2
Methyl ethyl ketone	0.12
Methyl tert-butyl ether	0.93
Methylene chloride	0.05
Propylbenzene-n	3.9
Sec-Butylbenzene	11
Tert-Butylbenzene	5.9
Tetrachloroethene	1.3
Toluene	0.7
Trichloroethene	0.47
Trimethylbenzene-1,2,4	3.6

TABLE 1

CRITERIA FOR USE OF OFF-SITE SOIL

REMEDIAL ACTION WORK PLAN
399 OHIO STREET SITE
BUFFALO, NEW YORK

Parameter	Allowable Concentration[1] for Use of Off-Site Soil
Volatile Organic Compounds (mg/kg)	
Trimethylbenzene-1,3,5	8.4
Vinyl chloride	0.02
Xylene (mixed)	1.6
Semi-Volatile Organic Compounds (mg/kg)	
Acenaphthene	98
Acenaphthylene	107
Anthracene	500
Benzo(a)anthracene	1
Benzo(a)pyrene	1
Benzo(b)fluoranthene	1
Benzo(g,h,i)perylene	100
Benzo(k)fluoranthene	1.7
Chrysene	1
Dibenz(a,h)anthracene	0.33
Fluoranthene	100
Fluorene	100
Indeno(1,2,3-cd)pyrene	0.5
m-Cresol(s)	0.33
Naphthalene	12
o-Cresol(s)	0.33
p-Cresol(s)	0.33
Pentachlorophenol	0.8
Phenanthrene	100
Phenol	0.33
Pyrene	100

TABLE 1

CRITERIA FOR USE OF OFF-SITE SOIL

REMEDIAL ACTION WORK PLAN
399 OHIO STREET SITE
BUFFALO, NEW YORK

Parameter	Allowable Concentration[1] for Use of Off-Site Soil
Metals (mg/kg)	
Arsenic	16
Barium	400
Beryllium	47
Cadmium	4.3
Chromium, Hexavalent[2]	19
Chromium, Trivalent[2]	180
Copper	270
Cyanide	27
Lead	400
Manganese	2000
Mercury (total)	0.73
Nickel	130
Selenium	4
Silver	8.3
Zinc	2480
PCBs/Pesticides (mg/kg)	
2,4,5-TP Acid (Silvex)	3.8
4,4'-DDE	8.9
4,4'-DDT	7.9
4,4'-DDD	13
Aldrin	0.097
Alpha-BHC	0.02
Beta-BHC	0.09
Chlordane (alpha)	2.9
Delta-BHC	0.25
Dibenzofuran	59
Dieldrin	0.1
Endosulfan I	24
Endosulfan II	24

TABLE 1

CRITERIA FOR USE OF OFF-SITE SOIL

REMEDIAL ACTION WORK PLAN
399 OHIO STREET SITE
BUFFALO, NEW YORK

Parameter	Allowable Concentration[1] for Use of Off-Site Soil
PCBs/Pesticides (mg/kg)	
Endosulfan sulfate	24
Endrin	0.06
Heptachlor	0.38
Lindane	0.1
Polychlorinated biphenyls	1

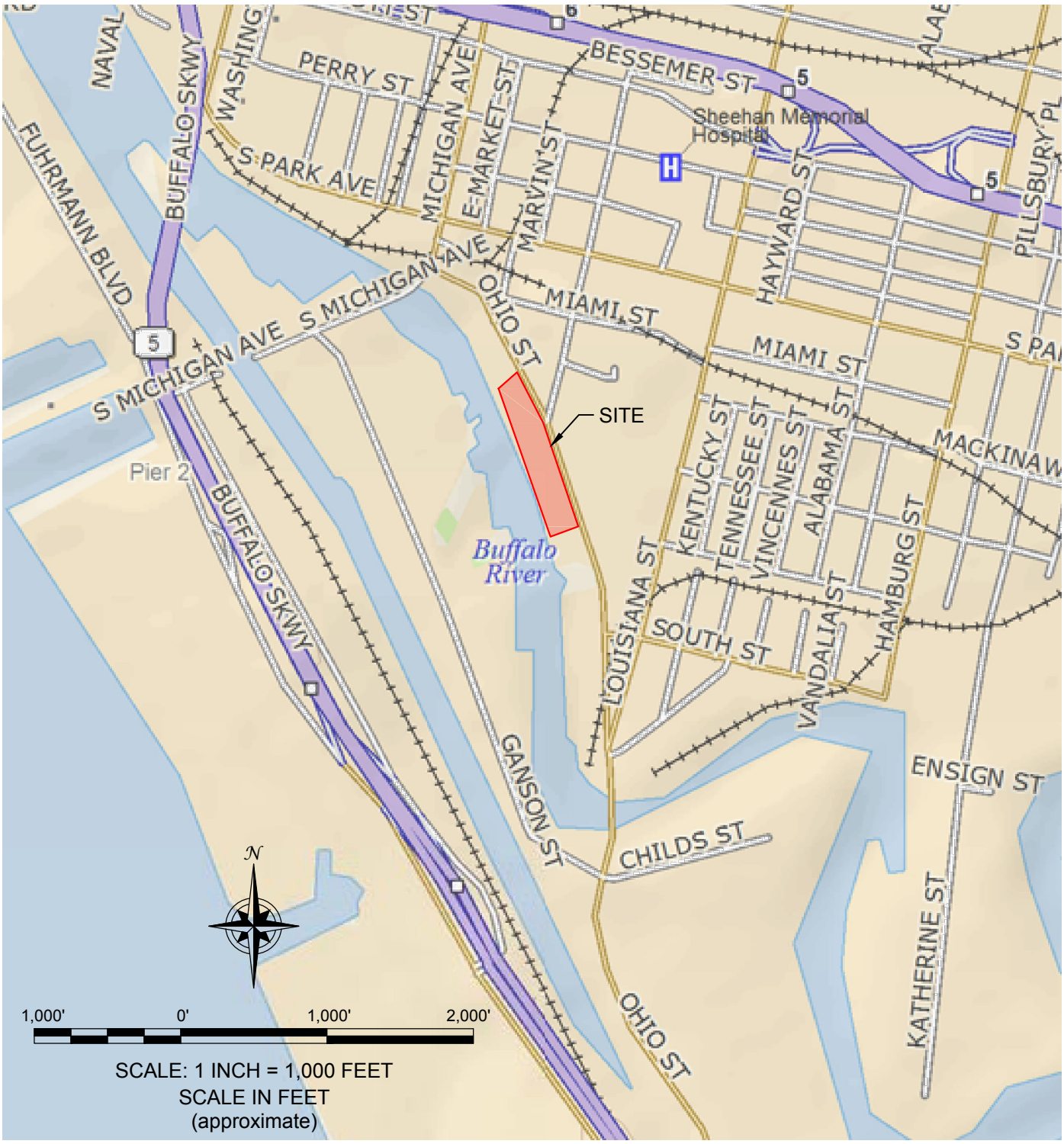
Notes:

1. Value per DER-10, Appendix 5 for Restricted-Residential Use Sites.

FIGURES

F:\CAD\TurnKey\Ellicott Development\399 Ohio Street BCP\RAWP\Figure 1; Site Location and Vicinity Map.dwg

FIGURE 1



TurnKey Environmental Restoration, LLC
2558 HAMBURG TURNPIKE
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(716) 856-0635

PROJECT NO.: 0136-013-011

DATE: MARCH 2016

DRAFTED BY: KRR

SITE LOCATION AND VICINITY MAP

REMEDIAL ACTION WORK PLAN

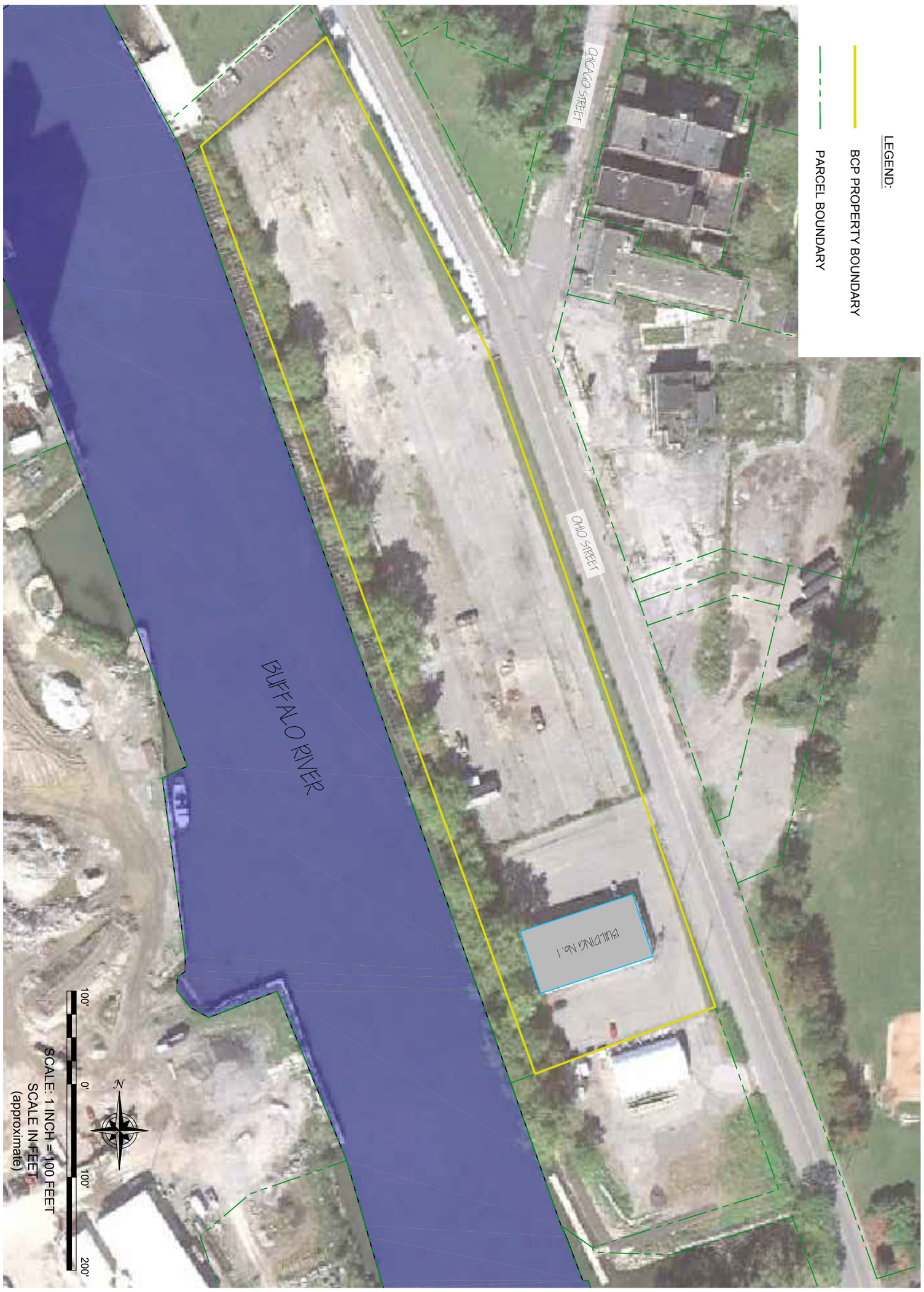
399 OHIO STREET SITE

BUFFALO, NEW YORK

PREPARED FOR

1093 GROUP, LLC

DATE: MARCH 2016
DRAFTED BY: KRR



SITE PLAN (AERIAL)

REMEDIAL ACTION WORK PLAN

399 OHIO STREET SITE

BUFFALO, NEW YORK

PREPARED FOR

1093 GROUP, LLC

FIGURE 2

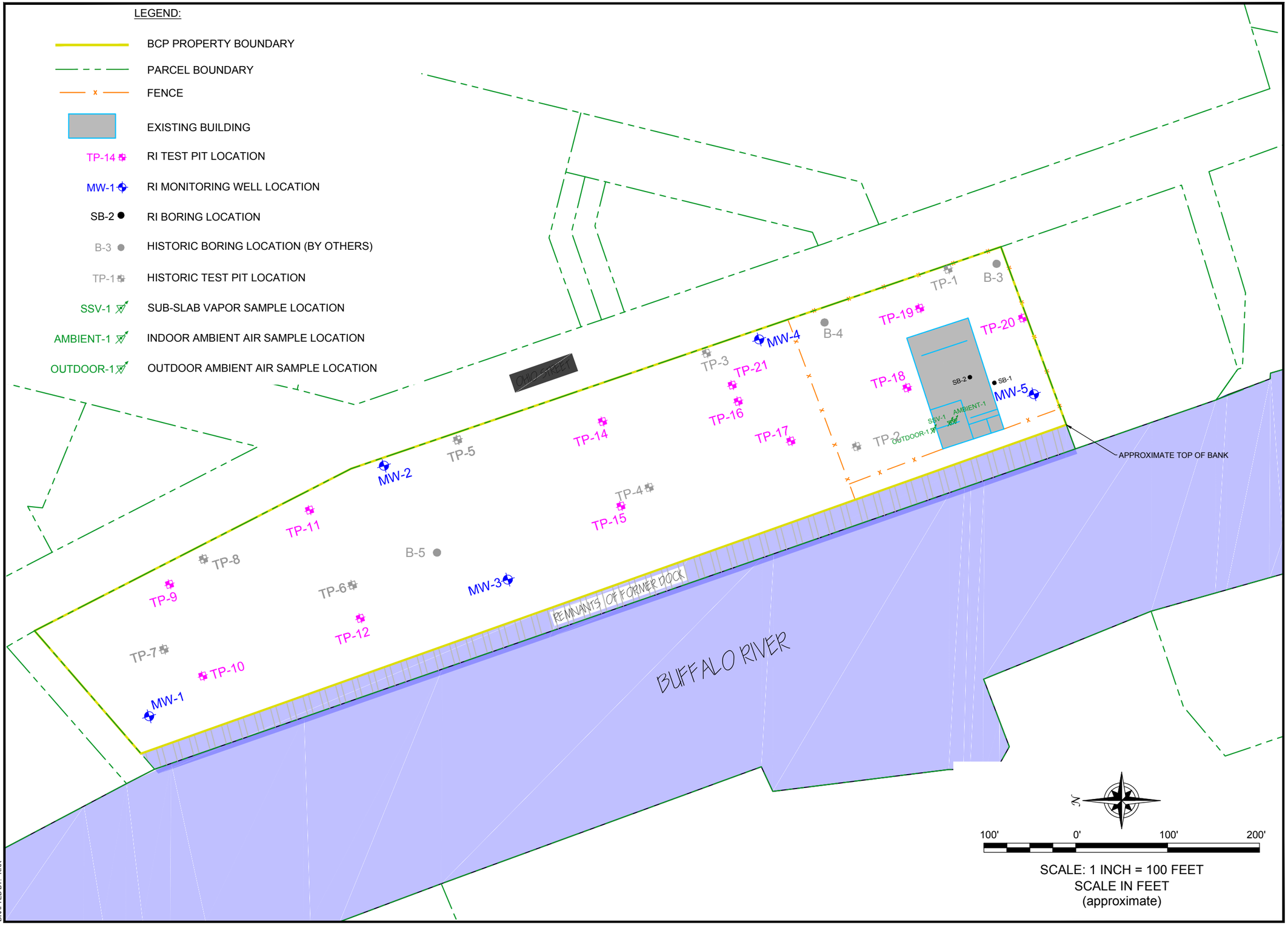
BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599

JOB NO.: 0136-013-011

F:\CAD\TurnKey\Elliott Development\399 Ohio Street BCP\RAWP\Figure 3; Remedial Investigation Sample Locations.dwg

LEGEND:

- BCP PROPERTY BOUNDARY
- PARCEL BOUNDARY
- FENCE
- EXISTING BUILDING
- TP-14 RI TEST PIT LOCATION
- MW-1 RI MONITORING WELL LOCATION
- SB-2 RI BORING LOCATION
- B-3 HISTORIC BORING LOCATION (BY OTHERS)
- TP-1 HISTORIC TEST PIT LOCATION
- SSV-1 SUB-SLAB VAPOR SAMPLE LOCATION
- AMBIENT-1 INDOOR AMBIENT AIR SAMPLE LOCATION
- OUTDOOR-1 OUTDOOR AMBIENT AIR SAMPLE LOCATION



SCALE: 1 INCH = 100 FEET
SCALE IN FEET
(approximate)

DATE: MARCH 2016
DRAFTED BY: KRR

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TURNKEY ENVIRONMENTAL RESTORATION, LLC

JOB NO.: 0136-013-011

REMEDIAL INVESTIGATION SAMPLE LOCATIONS

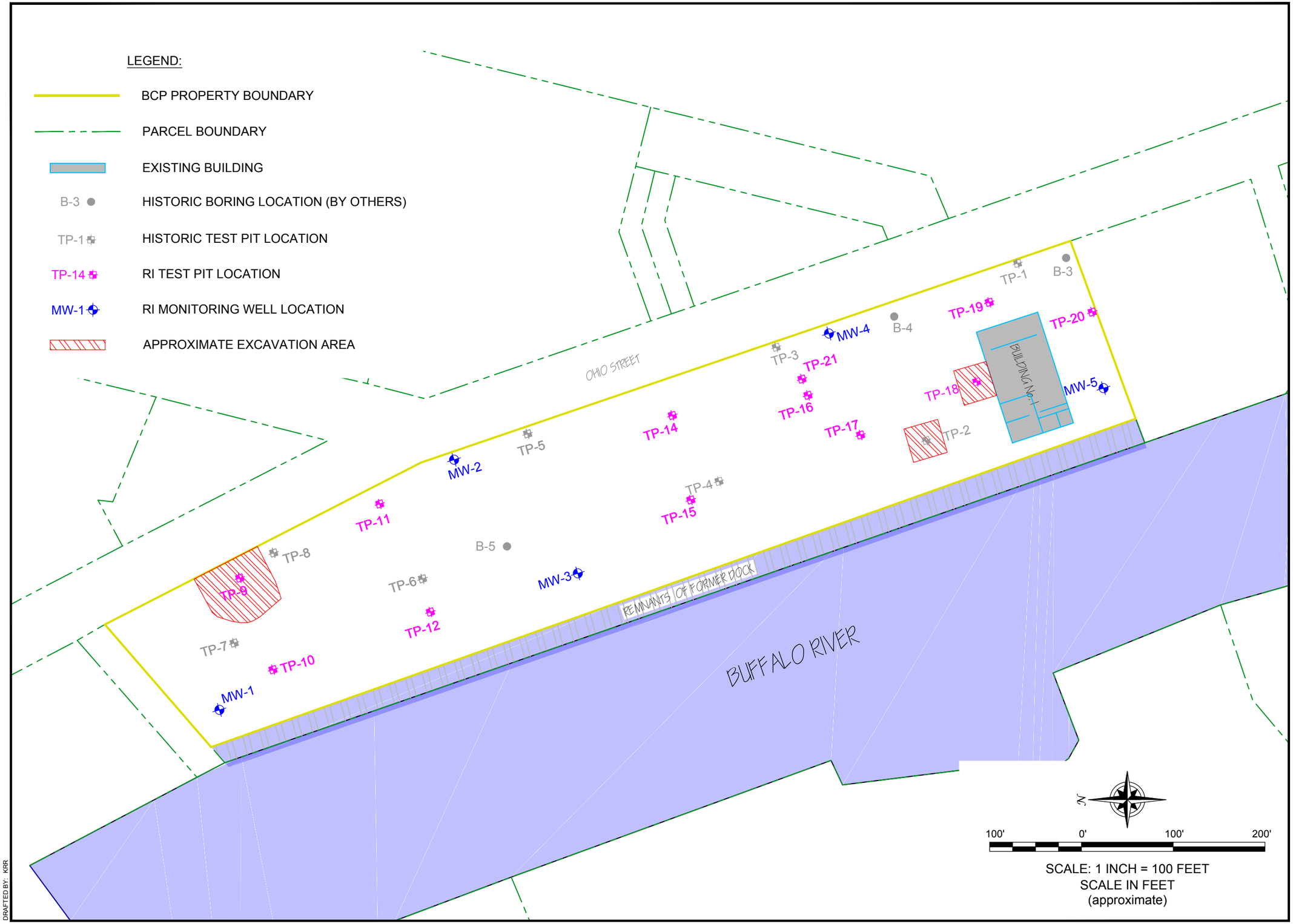
REMEDIAL ACTION WORK PLAN
399 OHIO STREET SITE
BUFFALO, NEW YORK
PREPARED FOR
1093 GROUP, LLC

FIGURE 3

F:\CAD\TurnKey\Elliott Development\399 Ohio Street BCP\RAWP\Figure 4 - Planned Remedial Excavation Areas.dwg

LEGEND:

- BCP PROPERTY BOUNDARY
- PARCEL BOUNDARY
- EXISTING BUILDING
- B-3 HISTORIC BORING LOCATION (BY OTHERS)
- TP-1 HISTORIC TEST PIT LOCATION
- TP-14 RI TEST PIT LOCATION
- MW-1 RI MONITORING WELL LOCATION
- APPROXIMATE EXCAVATION AREA



SCALE: 1 INCH = 100 FEET
SCALE IN FEET
(approximate)

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JOB NO.: 0136-013-011

PLANNED REMEDIAL EXCAVATION AREAS

REMEDIAL ACTION WORK PLAN
399 OHIO STREET SITE
BUFFALO, NEW YORK
PREPARED FOR
1093 GROUP, LLC

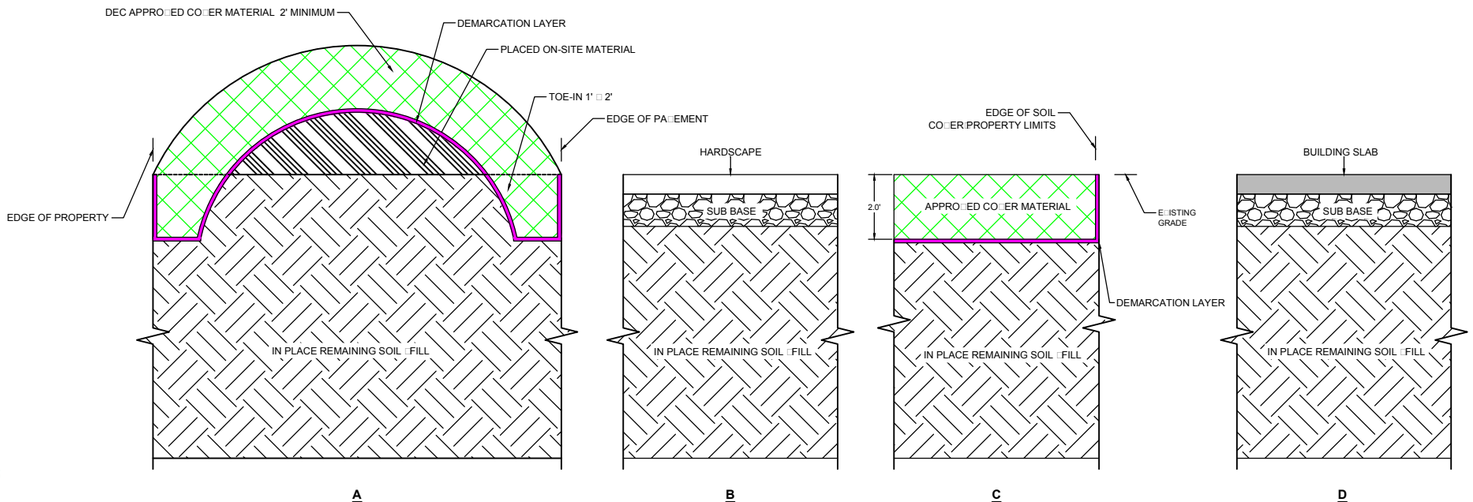
FIGURE 4

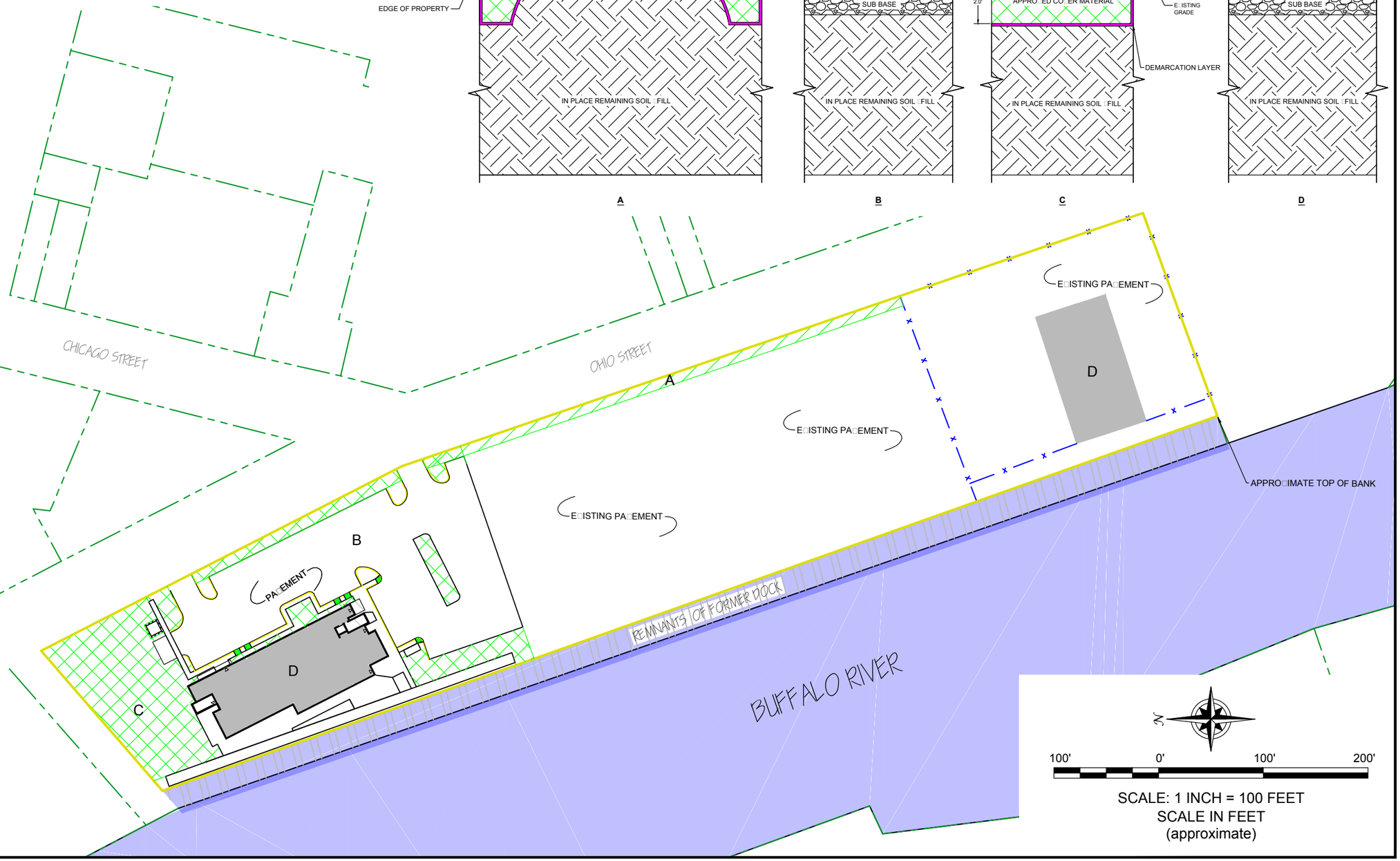
F:\CAD\TurnKey\Ellicott Development\399 Ohio Street BCP\RAWP\Figure 5; Planned Cover System Layout and Detail rev cmc.dwg

LEGEND:

- BCP SITE BOUNDARY
- PARCEL BOUNDARY
- PLANNED SOIL CO□ER SYSTEM AREAS
- HARDSCAPE (ASPHALT, CONCRETE, AND BUILDING)
- E□ISTING BUILDING

COVER SYSTEM DETAILS





DATE: MARCH 2016
DRAFTED BY: KRR

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599

JOB NO.: 0136-013-011

PLANNED COVER SYSTEM LAYOUT AND DETAIL

REMEDIAL ACTION WORK PLAN
399 OHIO STREET SITE
BUFFALO, NEW YORK
PREPARED FOR
1093 GROUP, LLC

FIGURE 5

APPENDIX A

HEALTH AND SAFETY PLAN

SITE HEALTH AND SAFETY PLAN
for
BROWNFIELD CLEANUP PROGRAM
REMEDIAL ACTIVITIES

399 OHIO STREET SITE
BUFFALO, NEW YORK

March 2016 0136-013-011

Prepared for:

1093 GROUP, LLC

399 OHIO STREET SITE
HEALTH AND SAFETY PLAN FOR REMEDIAL ACTIVITIES

ACKNOWLEDGEMENT

Plan Reviewed by (initial):

Corporate Health and Safety Director: Thomas H. Forbes P.E.

Project Manager: Michael Lesakowski

Designated Site Safety and Health Officer: Bryan C. Hann

Acknowledgement:
I acknowledge that I have reviewed the information contained in this site-specific Health and Safety Plan, and understand the hazards associated with performance of the field activities described herein. I agree to comply with the requirements of this plan.

NAME (PRINT)	SIGNATURE	DATE

399 OHIO STREET SITE
HEALTH AND SAFETY PLAN FOR REMEDIAL ACTIVITIES

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399 OHIO STREET SITE
HEALTH AND SAFETY PLAN FOR REMEDIAL ACTIVITIES

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399 OHIO STREET SITE
HEALTH AND SAFETY PLAN FOR REMEDIAL ACTIVITIES

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APPENDICES

1.0 INTRODUCTION

1.1 General

In accordance with OSHA requirements contained in 29 CFR 1910.120, this Health and Safety Plan (HASP) describes the specific health and safety practices and procedures to be employed by TurnKey Environmental Restoration, LLC and Benchmark Environmental Engineering & Science, PLLC employees (referred to jointly hereafter as "TurnKey-Benchmark") during remedial activities at the 399 Ohio Street Site located in the City of Buffalo, New York. This HASP presents procedures for TurnKey-Benchmark employees who will be involved with remedial field activities; it does not cover the activities of other contractors, subcontractors or other individuals on the Site. These firms will be required to develop and enforce their own HASPs as discussed in Section 2.0. TurnKey-Benchmark accepts no responsibility for the health and safety of contractor, subcontractor or other personnel.

This HASP presents information on known Site health and safety hazards using available historical information, and identifies the equipment, materials and procedures that will be used to eliminate or control these hazards. Environmental monitoring will be performed during the course of field activities to provide real-time data for on-going assessment of potential hazards.

1.2 Background

The BCP Site consists of an approximate 5.0 acre portion of a larger 7.26 acre property, located in a highly developed mixed use industrial, commercial, residential, and recreational area of the City of Buffalo, Erie County, New York (see Figures 1 and 2). The Site is currently improved with an approximately 10,000 square foot vehicle maintenance and office building with the remainder of the Site currently covered by asphalt/concrete.

The Site has a long history of industrial and commercial operation, which has contaminated the Site. The Site has been utilized for various industrial and commercial operations since at least 1889. Operations included rail lines, material handling and shipping equipment maintenance, and the use and storage of paints, solvents, thinners, greases, hydraulic oils and lubricants common among former commercial operations. More recent

property uses have included the operation of bus and trucking terminal and maintenance operations, including the placement of underground storage tanks (USTs), aboveground storage tanks (ASTs) and fuel dispensing pump(s), and the likely use and storage of automotive lubricants, oils, degreasers, solvents, grease, paints, thinners, and waste oils common for vehicle maintenance operations.

1.3 Known and Suspected Environmental Conditions

The 399 Ohio Street Site has a long history of industrial and commercial operation which has contaminated the Site. The Site has been utilized for various commercial operations including a bulk flour transport service, New York Central Railroad Freight Warehouses, Niagara Elevators, and the Plimpton Fire Proof Elevator. Portions of the property have been utilized as a tractor trailer repair facility, bus terminal and maintenance (Blue Bird Bus Lines), and NYSDOT maintenance facility.

Operations included multiple rail spurs, truck parking, material handling and shipping equipment use and maintenance, the likely application of pesticides and rodenticides related to the storage of raw food materials, and the use and storage of waste greases, hydraulic oils, and lubricants common among commercial automotive repair operations.

- Previous investigations completed on the Site (see Attachment 4) identified multiple recognized environmental conditions (RECs) including:
- Petroleum contamination was noted in historic soil borings on Site.
- Past use of the property included automotive repair operations, including multiple USTs, pump island, and ASTs.
- Storage of 55-gallon drums of suspect oil
- Presence of floor drain in the maintenance pit and trench drench drains in the floor, with unknown discharge points
- Staining noted proximate waste oil/grease storage area.
- Railroad spurs were noted historically on Site. Rail operations are frequently associated with elevated levels of semi-volatile organic compounds (SVOCs) and metals.
- City of Buffalo municipal historic permit records indicate the potential for at least three (3) USTs on Site.

- NYSDEC PBS database records indicate that two (2) ASTs had been located on Site.

Results of the Limited Phase II Environmental Investigation indicated:

- Elevated SVOCs across the Site above 6NYCRR Part 375 Unrestricted, Restricted Residential and Commercial Use SCOs.
- Elevated metals, including arsenic, cadmium, chromium, lead, silver, and mercury were detected across the Site above their respective 6NYCRR Part 375 Unrestricted, Residential, Restricted Residential, and Commercial Use SCOs. The RI will be performed in support of the BCP to determine the nature and extent of impacts from known and suspected environmental conditions on this parcel.

1.4 Parameters of Interest

Based on the previous investigations, primary constituents of potential concern (COPCs) in soil and groundwater at the Site include:

- **Inorganic Compounds –** The inorganic COPCs potentially present at elevated concentrations are arsenic, cadmium, and lead.

- **Polycyclic Aromatic Hydrocarbons (PAHs) –** The PAHs potentially present at elevated concentrations including; benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and Ideno(1,2,3-cd)pyrene. Although PAHs are commonly found in urban soil environments, they are present at the Site at concentrations that are significantly elevated compared to typical "background" levels.

1.5 Overview of Remedial Activities

TurnKey-Benchmark personnel will be on-site to observe and perform remedial activities. The field activities to be completed as part of the remedial activities are summarized below. Planned remedial activities are more fully described in the Remedial Action Work Plan (RAWP) for the Site (Ref. 4).

Remedial Action Activities

Excavation & Offsite Disposal of Contaminant Source Areas:

Based on the findings of the RI, approximately 650 CY of shallow metals-, PAH- and/or nuisance petroleum-impacted soil/fill in the vicinity of TP-2, TP-9, and TP-18, will be excavated and disposed off-site. All excavation work will be directed by an experienced Benchmark-TurnKey professional to remove impacted material. Lateral and vertical excavation will continue to feasible limits until impacted soil/fill is removed, SCOs/SSALs are met, excavation has reached the property line and/or utility, or NYSDEC agrees that no further excavation is required. Metal-, PAH- and/or nuisance petroleum-impacted soil/fill in the vicinity of TP-2, TP-9, and TP-18 will be removed and transported off-site for disposal and post-excavation confirmatory samples will be collected.

Following completion of the remedial excavations, all exposed soils not otherwise covered by the components of the redevelopment of the site (e.g., buildings, pavement) will be covered by material meeting the requirements of the generic soil cleanup table contained in DER-10, Appendix 5 for the applicable future site use (i.e., Restricted Residential). A PID and visual/olfactory observations will be used to screen soil/fill materials and assist in verifying removal of impacted soil/fill.

1. **Confirmation Sampling:** Post excavation confirmatory samples will be collected from each remedial excavation area in accordance with DER-10. A minimum of one sample per 30 linear feet of sidewall and one sample for each 900 square feet of excavation bottom will be collected. Benchmark-TurnKey personnel will collect confirmation soil samples that will be analyzed for different analytes based on excavation area and verify that excavations attain the applicable soil cleanup objectives (SCOs):
    - TP-2 – RCRA metals
    - TP-9 – TCL VOCs and TCL SVOCs
    - TP-18 – Total PAHs

2. **Backfill:** Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil or complete the backfilling of excavations and establish the designed grades at the site below the cover system. Wetting of the backfill soil during placement, spreading, and compaction will be performed as required to control fugitive dust within the Community Air Monitoring Plan action limits.

3. **Cover System:** The cover will consist either of the structures, such as buildings, pavement, and sidewalks comprising the site development, or one foot of surface soil which met the applicable soil cleanup objectives (SCOs). The soil cover will be placed over a demarcation layer and any backfill material brought to the site will meet the requirements for the identified site use as set forth in DER-10.

2.0 ORGANIZATIONAL STRUCTURE

This chapter of the HASP describes the lines of authority, responsibility and communication as they pertain to health and safety functions at the Site. The purpose of this chapter is to identify the personnel who impact the development and implementation of the HASP and to describe their roles and responsibilities. This chapter also identifies other contractors/sub-contractors involved in work operations and establishes the lines of communications among them for health and safety matters. The organizational structure described in this chapter is consistent with the requirements of 29 CFR 1910.120(b)(2). This section will be reviewed by the Project Manager and updated as necessary to reflect the current organizational structure at this Site.

2.1 Roles and Responsibilities

All Turnkey-Benchmark personnel on the Site must comply with the minimum requirements of this HASP. The specific responsibilities and authority of management, safety and health, and other personnel on this Site are detailed in the following paragraphs.

2.1.1 Corporate Health and Safety Director

The TurnKey-Benchmark Corporate Health and Safety Director is ***Mr. Thomas H. Forbes, P.E***. The Corporate Health and Safety Director responsible for developing and implementing the Health and Safety program and policies for Benchmark Environmental Engineering & Science, PLLC and TurnKey Environmental Restoration, LLC, and consulting with corporate management to ensure adequate resources are available to properly implement these programs and policies. The Corporate Health and Safety Director coordinates TurnKey-Benchmark's Health and Safety training and medical monitoring programs and assists project management and field staff in developing site-specific health and safety plans.

2.1.2 Project Manager

The Project Manager for this Site is ***Mr. Michael Lesakowski.*** The Project Manager has the responsibility and authority to direct all TurnKey-Benchmark work operations at the Site. The Project Manager coordinates safety and health functions with the

Site Safety and Health Officer, and bears ultimate responsibility for proper implementation of this HASP. He may delegate authority to expedite and facilitate any application of the program, including modifications to the overall project approach as necessary to circumvent unsafe work conditions. Specific duties of the Project Manager include:

- Preparing and coordinating the Site work plan.
- Providing TurnKey-Benchmark workers with work assignments and overseeing their performance.
- Coordinating health and safety efforts with the Site Safety and Health Officer (SSHO).
- Reviewing the emergency response coordination plan to assure its effectiveness.
- Serving as the primary liaison with Site contractors and the property owner.

2.1.3 Site Safety and Health Officer

The Site Safety and Health Officer (SSHO) for this Site is ***Mr. Bryan C. Hann***. The qualified alternate SSHO is ***Mr. Richard L. Dubisz.*** The SSHO reports to the Project Manager. The SSHO is on-site or readily accessible to the Site during all work operations and has the authority to halt Site work if unsafe conditions are detected. The specific responsibilities of the SSHO are:

- Managing the safety and health functions for TurnKey-Benchmark personnel on the Site.
- Serving as the point of contact for safety and health matters.
- Ensuring that TurnKey-Benchmark field personnel working on the Site have received proper training (per 29 CFR Part 1910.120(e)), that they have obtained medical clearance to wear respiratory protection (per 29 CFR Part 1910.134), and that they are properly trained in the selection, use and maintenance of personal protective equipment, including qualitative respirator fit testing.
- Performing or overseeing Site monitoring as required by the HASP.
- Assisting in the preparation and review of the HASP.
- Maintaining site-specific safety and health records as described in this HASP.

- Coordinating with the Project Manager, Site Workers, and Contractor's SSHO as necessary for safety and health efforts.

2.1.4 Site Workers

Site workers are responsible for: complying with this HASP or a more stringent HASP, if appropriate (i.e., Contractor and Subcontractor's HASP); using proper PPE; reporting unsafe acts and conditions to the SSHO; and following the safety and health instructions of the Project Manager and SSHO.

2.1.5 Other Site Personnel

Other Site personnel who will have health and safety responsibilities will include the Excavation Contractor, who will be responsible for developing, implementing and enforcing a Health and Safety Plan equally stringent or more stringent than TurnKey-Benchmark's HASP. TurnKey-Benchmark assumes no responsibility for the health and safety of anyone outside its direct employ. Each Contractor's HASP shall cover all non-TurnKey/Benchmark Site personnel. Each Contractor shall assign a SSHO who will coordinate with TurnKey-Benchmark's SSHO as necessary to ensure effective lines of communication and consistency between contingency plans.

In addition to TurnKey-Benchmark and Contractor personnel, other individuals who may have responsibilities in the work zone include subcontractors and governmental agencies performing Site inspection work (i.e., the New York State Department of Environmental Conservation). The Contractor shall be responsible for ensuring that these individuals have received OSHA-required training (29 CFR 1910.120(e)), including initial, refresher and site-specific training, and shall be responsible for the safety and health of these individuals while they are on-site.

3.0 HAZARD EVALUATION

Due to the presence of certain contaminants at the Site, the possibility exists that workers will be exposed to hazardous substances during field activities. The principal points of exposure would be through direct contact with and incidental ingestion of soil, and through the inhalation of contaminated particles or vapors. Other points of exposure may include direct contact with groundwater. In addition, the use of drilling and/or medium to large-sized construction equipment (e.g., excavator) will also present conditions for potential physical injury to workers. Further, since work will be performed outdoors, the potential exists for heat/cold stress to impact workers, especially those wearing protective equipment and clothing. Adherence to the medical evaluations, worker training relative to chemical hazards, safe work practices, proper personal protection, environmental monitoring, establishment work zones and Site control, appropriate decontamination procedures and contingency planning outlined herein will reduce the potential for chemical exposures and physical injuries.

3.1 Chemical Hazards

As discussed in Section 1.3, historic activities have potentially resulted in impacts to Site soils and groundwater. Visual and olfactory observations, as well as elevated PID readings, indicate a potential VOC impact to Site soil. In addition to VOCs, soil and groundwater may be impacted by SVOCs (PAHs) and/or inorganic compounds due to historic use as rail lines, material handling and shipping equipment maintenance, and the use and storage of paints, solvents, thinners, greases, hydraulic oils and lubricants common among former commercial operations. Table 1 lists exposure limits for airborne concentrations of the COPCs identified in Section 1.4 of this HASP. Brief descriptions of the toxicology of the prevalent COPCs and related health and safety guidance and criteria are provided below.

1. Inorganic Compounds

- **Arsenic (CAS #7440-38-2)** is a naturally occurring element and is usually found combined with one or more elements, such as oxygen or sulfur. Inhalation is a more important exposure route than ingestion. First phase exposure symptoms include nausea, vomiting, diarrhea and pain in the

stomach. Prolonged contact is corrosive to the skin and mucus membranes. Arsenic is considered a Group A human carcinogen by the USEPA. Exposure via inhalation is associated with an increased risk of lung cancer. Exposure via the oral route is associated with an increased risk of skin cancer.

- **Cadmium (CAS #7440-43-9)** is a natural element and is usually combined with one or more elements, such as oxygen, chloride or sulfur. Breathing high levels of cadmium severely damages the lungs and can cause death. Ingestion of high levels of cadmium severely irritates the stomach, leading to vomiting and diarrhea. Long term exposure to lower levels of cadmium leads to a buildup of this substance in the kidneys and possible kidney disease. Other potential long term effects are lung damage and fragile bones. Cadmium is suspected to be a human carcinogen.

- **Lead (CAS #7439-92-1)** can affect almost every organ and system in our bodies. The most sensitive is the central nervous system, particularly in children. Lead also damages kidneys and the immune system. The effects are the same whether it is breathed or swallowed. Lead may decrease reaction time, cause weakness in fingers, wrists or ankles and possibly affect memory. Lead may cause anemia.

2. **Polycyclic Aromatic Hydrocarbons (PAHs)** are formed as a result of the pyrolysis and incomplete combustion of organic matter such as fossil fuel. PAH aerosols formed during the combustion process disperse throughout the atmosphere, resulting in the deposition of PAH condensate in soil, water and on vegetation. In addition, several products formed from petroleum processing operations (e.g., roofing materials and asphalt) also contain elevated levels of PAHs. Hence, these compounds are widely dispersed in the environment. PAHs are characterized by a molecular structure containing three or more fused, unsaturated carbon rings. Seven of the PAHs are classified by USEPA as probable human carcinogens (USEPA Class B2). These are: benzo(a)pyrene; benzo(a)anthracene; benzo(b)fluoranthene; benzo(k)fluoranthene; chrysene; dibenzo(a,h)anthracene; and indeno(1,2,3-cd)pyrene. The primary route of exposure to PAHs is through incidental ingestion and inhalation of contaminated particulates. PAHs are characterized by an organic odor, and exist as oily liquids in pure form. Acute exposure symptoms may include acne-type blemishes in areas of the skin exposed to sunlight.

With respect to the anticipated remedial activities discussed in Section 1.5, possible routes of exposure to the above-mentioned contaminants are presented in Table 2. The use of proper respiratory equipment, as outlined in Section 7.0 of this HASP, will minimize the potential for exposure to airborne contamination. Exposure to contaminants through dermal and other routes will also be minimized through the use of protective clothing (Section 7.0), safe work practices (Section 6.0), and proper decontamination procedures (Section 12.0).

3.2 Physical Hazards

Remedial activities at the 399 Ohio Street Site may present the following physical hazards:

- The potential for physical injury during heavy construction equipment use, such as backhoes, excavators and drilling equipment.
- The potential for heat/cold stress to employees during the summer/winter months (see Section 10.0).
- The potential for slip and fall injuries due to rough, uneven terrain and/or open excavations.

These hazards represent only some of the possible means of injury that may be present during remedial operations and sampling activities at the Site. Since it is impossible to list all potential sources of injury, it shall be the responsibility of each individual to exercise proper care and caution during all phases of the work.

4.0 TRAINING

4.1 Site Workers

All personnel performing remedial activities at the Site (such as, but not limited to, equipment operators, general laborers, and drillers) and who may be exposed to hazardous substances, health hazards, or safety hazards and their supervisors/managers responsible for the Site shall receive training in accordance with 29 CFR 1910.120(e) before they are permitted to engage in operations in the exclusion zone or contaminant reduction zone. This training includes an initial 40-hour Hazardous Waste Site Worker Protection Course, an 8-hour Annual Refresher Course subsequent to the initial 40-hour training, and 3 days of actual field experience under the direct supervision of a trained, experienced supervisor. Additional site-specific training shall also be provided by the SSHO prior to the start of field activities. A description of topics to be covered by this training is provided below.

4.1.1 Initial and Refresher Training

Initial and refresher training is conducted by a qualified instructor as specified under OSHA 29 CFR 1910.120(e)(5), and is specifically designed to meet the requirements of OSHA 29 CFR 1910.120(e)(3) and 1910.120(e)(8). The training covers, as a minimum, the following topics:

- OSHA HAZWOPER regulations.
- Site safety and hazard recognition, including chemical and physical hazards.
- Medical monitoring requirements.
- Air monitoring, permissible exposure limits, and respiratory protection level classifications.
- Appropriate use of personal protective equipment (PPE), including chemical compatibility and respiratory equipment selection and use.
- Work practices to minimize risk.
- Work zones and Site control.

- Safe use of engineering controls and equipment.
- Decontamination procedures.
- Emergency response and escape.
- Confined space entry procedures.
- Heat and cold stress monitoring.
- Elements of a Health and Safety Plan.
- Spill containment.

Initial training also incorporates workshops for PPE and respiratory equipment use (Levels A, B and C), and respirator fit testing. Records and certification received from the course instructor documenting each employee's successful completion of the training identified above are maintained on file at TurnKey-Benchmark's Buffalo, NY office. Contractors and Subcontractors are required to provide similar documentation of training for all their personnel who will be involved in on-site work activities.

Any employee who has not been certified as having received health and safety training in conformance with 29 CFR 1910.120(e) is prohibited from working in the exclusion and contamination reduction zones, or to engage in any on-site work activities that may involve exposure to hazardous substances or wastes.

4.1.2 Site Training

Site workers are given a copy of the HASP and provided a site-specific briefing prior to the commencement of work to ensure that employees are familiar with the HASP and the information and requirements it contains. The Site briefing shall be provided by the SSHO prior to initiating field activities and shall include:

- Names of personnel and alternates responsible for Site safety and health.
- Safety, health and other hazards present on the Site.

- The site lay-out including work zones and places of refuge.
- The emergency communications system and emergency evacuation procedures.
- Use of PPE.
- Work practices by which the employee can minimize risks from hazards.
- Safe use of engineering controls and equipment on the site.
- Medical surveillance, including recognition of symptoms and signs of over-exposure as described in Chapter 5 of this HASP.
- Decontamination procedures as detailed in Chapter 12 of this HASP.
- The emergency response plan as detailed in Chapter 15 of this HASP.
- Confined space entry procedures, if required, as detailed in Chapter 13 of this HASP.
- The spill containment program as detailed in Chapter 9 of this HASP.
- Site control as detailed in Chapter 11 of this HASP.

Supplemental health and safety briefings will also be conducted by the SSHO on an as-needed basis during the course of the work. Supplemental briefings are provided as necessary to notify employees of any changes to this HASP as a result of information gathered during ongoing Site characterization and analysis. Conditions for which the SSHO may schedule additional briefings include, but are not limited to: a change in Site conditions (e.g., based on monitoring results); changes in the work schedule/plan; newly discovered hazards; and safety incidents occurring during Site work.

4.2 Supervisor Training

On-site safety and health personnel who are directly responsible for or who supervise the safety and health of workers engaged in hazardous waste operations (i.e., SSHO) shall receive, in addition to the appropriate level of worker training described in Section 4.1,

above, 8 additional hours of specialized supervisory training, in compliance with 29 CFR 1910.120(e)(4).

4.3 Emergency Response Training

Emergency response training is addressed in Appendix A of this HASP, Emergency Response Plan.

4.4 Site Visitors

Each Contractor's SSHO will provide a site-specific briefing to all Site visitors and other non-TurnKey/Benchmark personnel who enter the Site beyond the Site entry point. The site-specific briefing will provide information about Site hazards, the Site layout including work zones and places of refuge, the emergency communications system and emergency evacuation procedures, and other pertinent safety and health requirements as appropriate.

Site visitors will not be permitted to enter the exclusion zone or contaminant reduction zones unless they have received the level of training required for Site workers as described in Section 4.1.

5.0 MEDICAL MONITORING

Medical monitoring examinations are provided to TurnKey-Benchmark employees as stipulated under 29 CFR Part 1910.120(f). These exams include initial employment, annual and employment termination physicals for all TurnKey-Benchmark employees involved in hazardous waste site field operations. Post-exposure examinations are also provided for employees who may have been injured, received a health impairment, or developed signs or symptoms of over-exposure to hazardous substances, or were accidentally exposed to substances at concentrations above the permissible exposure limits without necessary personal protective equipment. Such exams are performed as soon as possible following development of symptoms or the known exposure event.

Medical evaluations are performed by Health Works WNY, an occupational health care provider under contract with TurnKey-Benchmark. Health Works WNY's local facility is located at 1900 Ridge Road, West Seneca, New York 14224. The facility can be reached at (716) 823-5050 to schedule routine appointments or post-exposure examinations.

Medical evaluations are conducted according to the TurnKey-Benchmark Medical Monitoring Program and include an evaluation of the workers' ability to use respiratory protective equipment. The examinations include:

- Occupational/medical history review.
- Physical exam, including vital sign measurement.
- Spirometry testing.
- Eyesight testing.
- Audio testing (minimum baseline and exit, annual for employees routinely exposed to greater than 85db).
- EKG (for employees >40 yrs age or as medical conditions dictate).
- Chest X-ray (baseline and exit, and every 5 years).
- Blood biochemistry (including blood count, white cell differential count, serum multiplastic screening).

- Medical certification of physical requirements (i.e., sight, musculoskeletal, cardiovascular) for safe job performance and to wear respiratory protection equipment.

The purpose of the medical evaluation is to determine an employee's fitness for duty on hazardous waste sites; and to establish baseline medical data.

In conformance with OSHA regulations, TurnKey-Benchmark will maintain and preserve medical records for a period of 30 years following termination of employment. Employees are provided a copy of the physician's post-exam report, and have access to their medical records and analyses.

6.0 SAFE WORK PRACTICES

All TurnKey-Benchmark employees shall conform to the following safe work practices during all on-site work activities conducted within the exclusion and contamination reduction zones:

- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth contact is strictly prohibited.

- The hands and face must be thoroughly washed upon leaving the work area and prior to engaging in any activity indicated above.

- Respiratory protective equipment and clothing must be worn by all personnel entering the Site as required by the HASP or as modified by the Site safety officer. Excessive facial hair (i.e., beards, long mustaches or sideburns) that interferes with the satisfactory respirator-to-face seal is prohibited.

- Contact with surfaces/materials either suspected or known to be contaminated will be avoided to minimize the potential for transfer to personnel, cross contamination and need for decontamination.

- Medicine and alcohol can synergize the effects of exposure to toxic chemicals. Due to possible contraindications, use of prescribed drugs should be reviewed with the TurnKey-Benchmark occupational physician. Alcoholic beverage and illegal drug intake are strictly forbidden during the workday.

- All personnel shall be familiar with standard operating safety procedures and additional instructions contained in this Health and Safety Plan.

- On-site personnel shall use the "buddy" system. No one may work alone (i.e., out of earshot or visual contact with other workers) in the exclusion zone.

- Personnel and equipment in the contaminated area shall be minimized, consistent with effective Site operations.

- All employees have the obligation to immediately report and if possible, correct unsafe work conditions.

- Use of contact lenses on-site will not be permitted. Spectacle kits for insertion into full-face respirators will be provided for TurnKey-Benchmark employees, as requested and required.

The recommended specific safety practices for working around the contractor's equipment (e.g., backhoes, bulldozers, excavators, drill rigs etc.) are as follows:

- Although the Contractor and subcontractors are responsible for their equipment and safe operation of the Site, TurnKey-Benchmark personnel are also responsible for their own safety.

- Subsurface work will not be initiated without first clearing underground utility services.

- Heavy equipment should not be operated within 20 feet of overhead wires. This distance may be increased if windy conditions are anticipated or if lines carry high voltage. The Site should also be sufficiently clear to ensure the project staff can move around the heavy machinery safely.

- Care should be taken to avoid overhead wires when moving heavy-equipment from location to location.

- Hard hats, safety boots and safety glasses should be worn at all times in the vicinity of heavy equipment. Hearing protection is also recommended.

- The work Site should be kept neat. This will prevent personnel from tripping and will allow for fast emergency exit from the Site.

- Proper lighting must be provided when working at night.

- Construction activities should be discontinued during an electrical storm or severe weather conditions.

- The presence of combustible gases should be checked before igniting any open flame.

- Personnel shall stand upwind of any construction operation when not immediately involved in sampling/logging/observing activities.

- Personnel will not approach the edge of an unsecured trench/excavation closer than 2 feet.

7.0 PERSONAL PROTECTIVE EQUIPMENT

7.1 Equipment Selection

Personal protective equipment (PPE) will be donned when work activities may result in exposure to physical or chemical hazards beyond acceptable limits, and when such exposure can be mitigated through appropriate PPE. The selection of PPE will be based on an evaluation of the performance characteristics of the PPE relative to the requirements and limitations of the Site, the task-specific conditions and duration, and the hazards and potential hazards identified at the Site.

Equipment designed to protect the body against contact with known or suspect chemical hazards are grouped into four categories, designated A through D, according to the degree of protection afforded. These categories are consistent with the United States Environmental Protection Agency (USEPA) Level of Protection designations, are:

- **Level A:** Should be selected when the highest level of respiratory, skin and eye protection is needed.

- **Level B:** Should be selected when the highest level of respiratory protection is needed, but a lesser level of skin protection is required. Level B protection is the minimum level recommended on initial Site entries until the hazards have been further defined by on-site studies. Level B (or Level A) is also necessary for oxygen-deficient atmospheres.

- **Level C:** Should be selected when the types of airborne substances are known, the concentrations have been measured and the criteria for using air-purifying respirators are met. In atmospheres where no airborne contaminants are present, Level C provides dermal protection only.

- **Level D:** Should not be worn on any Site with elevated respiratory or skin hazards. This is generally a work uniform providing minimal protection.

OSHA requires the use of certain PPE under conditions where an immediate danger to life and health (IDLH) may be present. Specifically, OSHA 29 CFR 1910.120(g)(3)(iii) requires use of a positive pressure self-contained breathing apparatus, or positive pressure air-line respirator equipped with an escape air supply when chemical exposure levels present a substantial possibility of immediate serious injury, illness or death, or impair the ability to

escape. Similarly, OSHA 29 CFR 1910.120(g)(3)(iv) requires donning totally-encapsulating chemical protective suits (with a protection level equivalent to Level A protection) in conditions where skin absorption of a hazardous substance may result in a substantial possibility of immediate serious illness, injury or death, or impair the ability to escape.

In situations where the types of chemicals, concentrations, and possibilities of contact are unknown, the appropriate level of protection must be selected based on professional experience and judgment until the hazards can be further characterized. The individual components of clothing and equipment must be assembled into a full protective ensemble to protect the worker from site-specific hazards, while at the same time minimizing hazards and drawbacks of the personal protective gear itself. Ensemble components are detailed below for levels A/B, C, and D protection.

7.2 Protection Ensembles

7.2.1 Level A/B Protection Ensemble

Level A/B ensembles include similar respiratory protection, however Level A provides a higher degree of dermal protection than Level B. Use of Level A over Level B is determined by: comparing the concentrations of identified substances in the air with skin toxicity data, and assessing the effect of the substance (by its measured air concentrations or splash potential) on the small area of the head and neck unprotected by Level B clothing.

The recommended PPE for level A/B is:

- Pressure-demand, full-face piece self-contained breathing apparatus (MSHA/-NIOSH approved) or pressure-demand supplied-air respirator with escape self-contained breathing apparatus (SCBA).
- Chemical-resistant clothing. For Level A, clothing consists of totally-encapsulating chemical resistant suit. Level B incorporates hooded one-or two-piece chemical splash suit.
- Inner and outer chemical resistant gloves.
- Chemical-resistant safety boots/shoes.

- Hardhat.

7.2.2 Level C Protection Ensemble

Level C protection is distinguished from Level B by the equipment used to protect the respiratory system, assuming the same type of chemical-resistant clothing is used. The main selection criterion for Level C is that conditions permit wearing an air-purifying device. The device (when required) must be an air-purifying respirator (MSHA/NIOSH approved) equipped with filter cartridges. Cartridges must be able to remove the substances encountered. Respiratory protection will be used only with proper fitting, training and the approval of a qualified individual. In addition, an air-purifying respirator can be used only if: oxygen content of the atmosphere is at least 19.5% in volume; substances are identified and concentrations measured; substances have adequate warning properties; the individual passes a qualitative fit-test for the mask; and an appropriate cartridge/canister is used, and its service limit concentration is not exceeded.

Recommended PPE for Level C conditions includes:

- Full-face piece, air-purifying respirator equipped with MSHA and NIOSH approved organic vapor/acid gas/dust/mist combination cartridges or as designated by the SSHO.
- Chemical-resistant clothing (hooded, one or two-piece chemical splash suit or disposable chemical-resistant one-piece suit).
- Inner and outer chemical-resistant gloves.
- Chemical-resistant safety boots/shoes.
- Hardhat.

An air-monitoring program is part of all response operations when atmospheric contamination is known or suspected. It is particularly important that the air be monitored thoroughly when personnel are wearing air-purifying respirators. Continual surveillance using direct-reading instruments is needed to detect any changes in air quality necessitating a higher level of respiratory protection.

7.2.3 Level D Protection Ensemble

As indicated above, Level D protection is primarily a work uniform. It can be worn in areas where only boots can be contaminated, where there are no inhalable toxic substances and where the atmospheric contains at least 19.5% oxygen.

Recommended PPE for Level D includes:

- Coveralls.
- Safety boots/shoes.
- Safety glasses or chemical splash goggles.
- Hardhat.
- Optional gloves; escape mask; face shield.

7.2.4 Recommended Level of Protection for Site Tasks

Based upon current information regarding both the contaminants suspected to be present at the Site and the various tasks that are included in the remedial activities, the minimum required levels of protection for these tasks shall be as identified in Table 3.

8.0 EXPOSURE MONITORING

8.1 General

Based on the results of historic sample analysis and the nature of the proposed work activities at the Site, the possibility exists that organic vapors and/or particulates may be released to the air during intrusive construction activities. Ambient breathing zone concentrations may at times, exceed the permissible exposure limits (PELs) established by OSHA for the individual compounds (see Table 1), in which case respiratory protection will be required. Respiratory and dermal protection may be modified (upgraded or downgraded) by the SSHO based upon real-time field monitoring data.

8.1.1 On-Site Work Zone Monitoring

TurnKey-Benchmark personnel will conduct routine, real-time air monitoring during all intrusive construction phases such as excavation, backfilling, drilling, etc. The work area will be monitored at regular intervals using a photo-ionization detector (PID), combustible gas meter and a particulate meter. Observed values will be recorded and maintained as part of the permanent field record.

Additional air monitoring measurements may be made by TurnKey-Benchmark personnel to verify field conditions during subcontractor oversight activities. Monitoring instruments will be protected from surface contamination during use. Additional monitoring instruments may be added if the situations or conditions change. Monitoring instruments will be calibrated in accordance with manufacturer's instructions before use.

8.1.2 Off-Site Community Air Monitoring

In addition to on-site monitoring within the work zone(s), monitoring at the down-wind portion of the Site perimeter will be conducted. This will provide a real-time method for determination of vapor and/or particulate releases to the surrounding community as a result of ground intrusive investigation work.

Ground intrusive activities are defined by NYSDOH Appendix 1A Generic Community Air Monitoring Plan (Ref. 3) and attached as Appendix C. Ground intrusive activities include soil/waste excavation and handling, test pitting or trenching, and the

installation of soil borings or monitoring wells. Non-intrusive activities include the collection of soil and sediment samples or the collection of groundwater samples from existing wells. Continuous monitoring is required for ground intrusive activities and periodic monitoring is required for non-intrusive activities. Periodic monitoring consists of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring while bailing a well, and taking a reading prior to leaving a sampling location. This may be upgraded to continuous if the sampling location is in close proximity to individuals not involved in the Site activity (i.e., on a curb of a busy street). The action levels below will be used during periodic monitoring.

8.2 Monitoring Action Levels

8.2.1 On-Site Work Zone Action Levels

The PID, or other appropriate instrument(s), will be used by TurnKey-Benchmark personnel to monitor organic vapor concentrations as specified in this HASP. Combustible gas will be monitored with the "combustible gas" option on the combustible gas meter or other appropriate instrument(s). In addition, fugitive dust/particulate concentrations will be monitored during major soil intrusion (viz., well/boring installation) using a real-time particulate monitor as specified in this plan. In the absence of such monitoring, appropriate respiratory protection for particulates shall be donned. Sustained readings obtained in the breathing zone may be interpreted (with regard to other Site conditions) as follows for TurnKey-Benchmark personnel:

- Total atmospheric concentrations of unidentified vapors or gases ranging from 0 to 1 ppm above background on the PID) - Continue operations under Level D (see Appendix A).

- Total atmospheric concentrations of unidentified vapors or gases yielding sustained readings from >1 ppm to 5 ppm above background on the PID (vapors not suspected of containing high levels of chemicals toxic to the skin) - Continue operations under Level C (see Appendix A).

- Total atmospheric concentrations of unidentified vapors or gases yielding sustained readings of >5 ppm to 50 ppm above background on the PID -

Continue operations under Level B (see Attachment 1), re-evaluate and alter (if possible) construction methods to achieve lower vapor concentrations.

- Total atmospheric concentrations of unidentified vapors or gases above 50 ppm on the PID - Discontinue operations and exit the work zone immediately.

The explosimeter will be used to monitor levels of both combustible gases and oxygen during remedial activities. Action levels based on the instrument readings shall be as follows:

- Less than 10% LEL - Continue engineering operations with caution.
- 10-25% LEL - Continuous monitoring with extreme caution, determine source/cause of elevated reading.
- Greater than 25% LEL - Explosion hazard, evaluate source and leave the Work Zone.
- 19.5% - 21% oxygen - proceed with extreme caution; attempt to determine potential source of oxygen displacement.
- Less than 19.5% oxygen - leave work zone immediately.
- 21-25% oxygen - Continue engineering operations with caution.
- Greater than 25% oxygen - Fire hazard potential, leave Work Zone immediately.

The particulate monitor will be used to monitor respirable dust concentrations during all intrusive activities and during handling of Site soil/fill. Action levels based on the instrument readings shall be as follows:

- Less than 50 mg/m^3 - Continue field operations.
- 50-150 mg/m^3 - Don dust/particulate mask or equivalent
- Greater than 150 mg/m^3 - Don dust/particulate mask or equivalent. Initiate engineering controls to reduce respirable dust concentration (viz., wetting of excavated soils or tools at discretion of Site Health and Safety Officer).

Readings with the organic vapor analyzer, combustible gas meter, and particulate monitor will be recorded and documented on the appropriate Project Field Forms. All instruments will be calibrated before use on a daily basis and the procedure will be documented on the appropriate Project Field Forms.

8.2.2 Community Air Monitoring Action Levels

In addition to the action levels prescribed in Section 8.2.1 for TurnKey-Benchmark personnel on-site, the following criteria shall also be adhered to for the protection of downwind receptors consistent with NYSDOH requirements (Appendix C):

- **ORGANIC VAPOR PERIMETER MONITORING:**
  - If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

  - If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

  - If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

  - All 15-minute readings must be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

- **Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures**

  - When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative-pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

  - If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring should occur within the occupied structure (s). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.

  - If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 mcg/m3, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m3 or less at the monitoring point.

  - Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, carbon monoxide) may also need to be monitored Response levels and actions should be pre-determined, as necessary, for each site.

Additionally, if following the cessation of work and efforts to abate the emission source are unsuccessful, and if sustained organic vapor levels exceed 25 ppm above

background within the 20-foot zone for more than 30 minutes, then the **Major Vapor Emission Response Plan** (see below) will automatically be placed into effect.

- **MAJOR VAPOR EMISSION RESPONSE PLAN:**

  Upon activation, the following activities will be undertaken:

  1. All Emergency Response Contacts as listed in this Health and Safety Plan and the Emergency Response Plan (Appendix A) will be advised.

  2. The local police authorities will immediately be contacted by the Site Health and Safety Officer and advised of the situation.

  3. The Site Safety and Health Officer will determine if site workers can safely undertake source abatement measures. Abatement measures may include covering the source area with clean fill or plastic sheeting, or consolidating contaminated materials to minimize surface area. The Site Safety and Health Officer will adjust worker personal protective equipment as necessary to protect workers from over-exposure to organic vapors.

  The following personnel are to be notified in the listed sequence in the event that a Major Vapor Emission Plan is activated:

Responsible Person	Contact	Phone Number
SSHO	Police	911
SSHO	State Emergency Response Hotline	(800) 457-7362

  Additional emergency numbers are listed in the Emergency Response Plan included as Appendix A.

- **EXPLOSIVE VAPORS:**

  - Sustained atmospheric concentrations of greater than 10% LEL in the work area - Initiate combustible gas monitoring at the downwind portion of the Site perimeter.

- Sustained atmospheric concentrations of greater than 10% LEL at the downwind Site perimeter – Halt work and contact local Fire Department.

o **AIRBORNE PARTICULATE COMMUNITY AIR MONITORING**

Respirable (PM-10) particulate monitoring will be performed on a continuous basis at the upwind and downwind perimeter of the exclusion zone. The monitoring will be performed using real-time monitoring equipment capable of measuring less than PM-10 and integrating over a period of 15-minutes for comparison to the airborne particulate action levels. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities. All readings will be recorded and will be available for NYSDEC and NYSDOH review. Readings will be interpreted as follows:

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (ug/m^3) greater than the background (upwind perimeter) reading for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression provided that the downwind PM-10 particulate levels do not exceed 150 ug/m^3 above the upwind level and that visible dust is not migrating from the work area.

- If, after implementation of dust suppression techniques downwind PM-10 levels are greater than 150 ug/m^3 above the upwind level, work activities must be stopped and dust suppression controls re-evaluated. Work can resume provided that supplemental dust suppression measures and/or other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 ug/m^3 of the upwind level and in preventing visible dust migration.

Pertinent emergency response information including the telephone number of the Fire Department is included in the Emergency Response Plan (Appendix A).

9.0 SPILL RELEASE/RESPONSE

This chapter of the HASP describes the potential for and procedures related to spills or releases of known or suspected petroleum and/or hazardous substances on the Site. The purpose of this Section of the HASP is to plan appropriate response, control, counter-measures and reporting, consistent with OSHA requirements in 29 CFR 1910.120(b)(4)(ii)(J) and (j)(1)(viii). The spill containment program addresses the following elements:

- Potential hazardous material spills and available controls.
- Initial notification and evaluation.
- Spill response.
- Post-spill evaluation.

9.1 Potential Spills and Available Controls

An evaluation was conducted to determine the potential for hazardous material and oil/petroleum spills at this Site. For the purpose of this evaluation, hazardous materials posing a significant spill potential are considered to be:

- CERCLA Hazardous Substances as identified in 40 CFR Part 302, where such materials pose the potential for release in excess of their corresponding Reportable Quantity (RQ).

- Extremely Hazardous Substances as identified in 40 CFR Part 355, Appendix A, where such materials pose the potential for release in excess of their corresponding Reportable Quantity (RQ).

- Hazardous Chemicals as defined under Section 311(e) of the Emergency Planning and Community Right-To-Know Act of 1986, where such chemicals are present or will be stored in excess of 10,000 lbs.

- Toxic Chemicals as defined in 40 CFR Part 372, where such chemicals are present or will be stored in excess of 10,000 lbs.

- Chemicals regulated under 6NYCRR Part 597, where such materials pose the potential for release in excess of their corresponding Reportable Quantity (RQ).

Oil/petroleum products are considered to pose a significant spill potential whenever

the following situations occur:

- The potential for a "harmful quantity" of oil (including petroleum and non-petroleum-based fuels and lubricants) to reach navigable waters of the U.S. exists (40 CFR Part 112.4). Harmful quantities are considered by USEPA to be volumes that could form a visible sheen on the water or violate applicable water quality standards.

- The potential for any amount of petroleum to reach any waters of NY State, including groundwater, exists. Petroleum, as defined by NY State in 6NYCRR Part 612, is a petroleum-based heat source, energy source, or engine lubricant/maintenance fluid.

- The potential for any release, to soil or water, of petroleum from a bulk storage facility regulated under 6NYCRR Part 612. A regulated petroleum storage facility is defined by NY State as a site having stationary tank(s) and intra-facility piping, fixtures and related equipment with an aggregate storage volume of 1,100 gallons or greater.

9.2 Initial Spill Notification and Evaluation

Any worker who discovers a hazardous substance or oil/petroleum spill will immediately notify the Project Manager and SSHO. The worker will, to the best of his/her ability, report the material involved, the location of the spill, the estimated quantity of material spilled, the direction/flow of the spill material, related fire/explosion incidents, if any, and any associated injuries. The Emergency Response Plan presented in Attachment H2 of this HASP will immediately be implemented if an emergency release has occurred.

Following initial report of a spill, the Project Manager will make an evaluation as to whether the release exceeds RQ levels. If an RQ level is exceeded, the Project Manager will notify the Site owner and NYSDEC at 1-800-457-7362 within 2 hours of spill discovery. The Project Manager will also determine what additional agencies (e.g., USEPA) are to be contacted regarding the release, and will follow-up with written reports as required by the applicable regulations.

9.3 Spill Response

For all spill situations, the following general response guidelines will apply:

- Only those personnel involved in overseeing or performing containment operations will be allowed within the spill area. If necessary, the area will be roped, ribboned, or otherwise blocked off to prevent unauthorized access.
- Appropriate PPE, as specified by the SSHO, will be donned before entering the spill area.
- Ignition points will be extinguished/removed if fire or explosion hazards exist.
- Surrounding reactive materials will be removed.
- Drains or drainage in the spill area will be blocked to prevent inflow of spilled materials or applied materials.

For minor spills, the Contractor will maintain a Spill Control and Containment Kit in the Field Office or other readily accessible storage location. The kit will consist of, at a minimum, a 50 lb. bag of "speedy dry" granular absorbent material, absorbent pads, shovels, empty 5-gallon pails and an empty open-top 55-gallon drum. Spilled materials will be absorbed, and shoveled into a 55-gallon drum for proper disposal (NYSDEC approval will be secured for on-site treatment of the impacted soils/absorbent materials, if applicable). Impacted soils will be hand-excavated to the point that no visible signs of contamination remains, and will be drummed with the absorbent.

In the event of a major release or a release that threatens surface water, a spill response contractor will be called to the Site. The response contractor may use heavy equipment (e.g., excavator, backhoe, etc.) to berm the soils surrounding the spill Site or create diversion trenching to mitigate overland migration or release to navigable waters. Where feasible, pumps will be used to transfer free liquid to storage containers. Spill control/cleanup contractors in the Western New York area that may be contacted for assistance include:

- Green Environmental Specialists, Inc.: (716) 298-5297
- Environmental Products and Services, Inc.: (716) 447-4700

9.4 Post-Spill Evaluation

If a reportable quantity of hazardous material or oil/petroleum is spilled as determined by the Project Manager, a written report will be prepared as indicated in Section 9.2. The report will identify the root cause of the spill, type and amount of material released, date/time of release, response actions, agencies notified and/or involved in cleanup, and procedures to be implemented to avoid repeat incidents. In addition, all re-useable spill cleanup and containment materials will be decontaminated, and spill kit supplies/disposable items will be replenished.

10.0 HEAT/COLD STRESS MONITORING

Since some of the work activities at the Site will be scheduled for both the summer and winter months, measures will be taken to minimize heat/cold stress to TurnKey-Benchmark employees. The Site Safety and Health Officer and/or his or her designee will be responsible for monitoring TurnKey-Benchmark field personnel for symptoms of heat/cold stress.

10.1 Heat Stress Monitoring

Personal protective equipment may place an employee at risk of developing heat stress, a common and potentially serious illnesses often encountered at construction, landfill, waste disposal, industrial or other unsheltered sites. The potential for heat stress is dependent on a number of factors, including environmental conditions, clothing, workload, physical conditioning and age. Personal protective equipment may severely reduce the body's normal ability to maintain temperature equilibrium (via evaporation and convection), and require increased energy expenditure due to its bulk and weight.

Proper training and preventive measures will mitigate the potential for serious illness. Heat stress prevention is particularly important because once a person suffers from heat stroke or heat exhaustion, that person may be predisposed to additional heat related illness. To avoid heat stress, the following steps should be taken:

- Adjust work schedules.
- Modify work/rest schedules according to monitoring requirements.
- Mandate work slowdowns as needed.
- Perform work during cooler hours of the day if possible or at night if adequate lighting can be provided.
- Provide shelter (air-conditioned, if possible) or shaded areas to protect personnel during rest periods.
- Maintain worker's body fluids at normal levels. This is necessary to ensure that the cardiovascular system functions adequately. Daily fluid intake must approximately equal the amount of water lost in sweat (i.e., eight fluid ounces

must be ingested for approximately every 1 lb of weight lost). The normal thirst mechanism is not sensitive enough to ensure that enough water will be consumed to replace lost perspiration. When heavy sweating occurs, workers should be encouraged to drink more.

- Train workers to recognize the symptoms of heat related illness.

Heat-Related Illness - Symptoms:

- Heat rash may result from continuous exposure to heat or humid air.

- Heat cramps are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms include: muscle spasms; pain in the hands, feet and abdomen.

- Heat exhaustion occurs from increased stress on various body organs including inadequate blood circulation due to cardiovascular insufficiency or dehydration. Signs and symptoms include: pale, cool, moist skin; heavy sweating; dizziness; nausea; fainting.

- Heat stroke is the most serious form of heat stress. Temperature regulation fails and the body temperature rises to critical levels. Immediate action must be taken to cool the body before serious injury and death occur. Competent medical help must be obtained. Signs and symptoms are: red, hot, usually dry skin; lack of or reduced perspiration; nausea; dizziness and confusion; strong, rapid pulse; coma.

The monitoring of personnel wearing protective clothing should commence when the ambient temperature is 70 degrees Fahrenheit or above. For monitoring the body's recuperative ability to excess heat, one or more of the following techniques should be used as a screening mechanism.

- Heart rate may be measured by the radial pulse for 30 seconds as early as possible in the resting period. The rate at the beginning of the rest period should not exceed 100 beats per minute. If the rate is higher, the next work period should be shortened by 10 minutes (or 33%), while the length of the rest periods stay the same. If the pulse rate is 100 beats per minute at the beginning of the nest rest period, the following work cycle should be further shortened by 33%.

- Body temperature may be measured orally with a clinical thermometer as early as

possible in the resting period. Oral temperature at the beginning of the rest period should not exceed 99.6 degrees Fahrenheit. If it does, the next work period should be shortened by 10 minutes (or 33%), while the length of the rest period remains the same. However, if the oral temperature exceeds 99.6 degrees Fahrenheit at the beginning of the next period, the work cycle may be further shortened by 33%. Oral temperature should be measured at the end of the rest period to make sure that it has dropped below 99.6 degrees Fahrenheit. No TurnKey-Benchmark employee will be permitted to continue wearing semi-permeable or impermeable garments when his/her oral temperature exceeds 100.6 degrees Fahrenheit.

10.2 Cold Stress Monitoring

Exposure to cold conditions may result in frostbite or hypothermia, each of which progresses in stages as shown below.

- **Frostbite** occurs when body tissue (usually on the extremities) begins to freeze. The three states of frostbite are:

    1) **Frost nip** - This is the first stage of the freezing process. It is characterized by a whitened area of skin, along with a slight burning or painful sensation. Treatment consists of removing the victim from the cold conditions, removal of boots and gloves, soaking the injured part in warm water (102 to 108 degrees Fahrenheit) and drinking a warm beverage. Do not rub skin to generate friction/ heat.

    2) **Superficial Frostbite** - This is the second stage of the freezing process. It is characterized by a whitish gray area of tissue, which will be firm to the touch but will yield little pain. The treatment is identical for Frost nip.

    3) **Deep Frostbite** - In this final stage of the freezing process the affected tissue will be cold, numb and hard and will yield little to no pain. Treatment is identical to that for Frost nip.

- **Hypothermia** is a serious cold stress condition occurring when the body loses heat at a rate faster than it is produced. If untreated, hypothermia may be fatal. The stages of hypothermia may not be clearly defined or visible at first, but generally include:

    1) Shivering

2) Apathy (i.e., a change to an indifferent or uncaring mood)
3) Unconsciousness
4) Bodily freezing

Employees exhibiting signs of hypothermia should be treated by medical professionals. Steps that can be taken while awaiting help include:

1) Remove the victim from the cold environment and remove wet or frozen clothing. (Do this carefully as frostbite may have started.)

2) Perform active re-warming with hot liquids for drinking (Note: do not give the victim any liquid containing alcohol or caffeine) and a warm water bath (102 to 108 degrees Fahrenheit).

3) Perform passive re-warming with a blanket or jacket wrapped around the victim.

In any potential cold stress situation, it is the responsibility of the Site Health and Safety Officer to encourage the following:

- Education of workers to recognize the symptoms of frostbite and hypothermia.
- Workers should dress warmly, with more layers of thin clothing as opposed to one thick layer.
- Personnel should remain active and keep moving.
- Personnel should be allowed to take shelter in heated areas, as necessary.
- Personnel should drink warm liquids (no caffeine or alcohol if hypothermia has set in).
- For monitoring the body's recuperation from excess cold, oral temperature recordings should occur:
  - At the Site Safety Technicians discretion when suspicion is based on changes in a worker's performance or mental status.
  - At a workers request.

- As a screening measure, two times per shift, under unusually hazardous conditions (e.g., wind chill less than 20 degrees Fahrenheit or wind chill less than 30 degrees Fahrenheit with precipitation).

- As a screening measure, whenever anyone worker on-site develops hypothermia.

Any person developing moderate hypothermia (a core body temperature of 92 degrees Fahrenheit) will not be allowed to return to work for 48 hours without the recommendation of a qualified medical doctor.

11.0 WORK ZONES AND SITE CONTROL

Work zones around the areas designated for construction activities will be established on a daily basis and communicated to all employees and other Site users by the SSHO. It shall be each Contractor's Site Safety and Health Officer's responsibility to ensure that all Site workers are aware of the work zone boundaries and to enforce proper procedures in each area. The zones will include:

- Exclusion Zone ("Hot Zone") - The area where contaminated materials may be exposed, excavated or handled and all areas where contaminated equipment or personnel may travel. The zone will be delineated by flagging tape. All personnel entering the Exclusion Zone must wear the prescribed level of personal protective equipment identified in Section 7.

- Contamination Reduction Zone - The zone where decontamination of personnel and equipment takes place. Any potentially contaminated clothing, equipment and samples must remain in the Contamination Reduction Zone until decontaminated.

- Support Zone - The part of the site that is considered non-contaminated or "clean." Support equipment will be located in this zone, and personnel may wear normal work clothes within this zone.

In the absence of other task-specific work zone boundaries established by the SSHO, the following boundaries will apply to all investigation and construction activities involving disruption or handling of Site soils or groundwater:

- Exclusion Zone: 50 foot radius from the outer limit of the sampling/construction activity.

- Contaminant Reduction Zone: 100 foot radius from the outer limit of the sampling/construction activity.

- Support Zone: Areas outside the Contaminant Reduction Zone.

Access of non-essential personnel to the Exclusion and Contamination Reduction Zones will be strictly controlled by the SSHO. Only personnel who are essential to the

completion of the task will be allowed access to these areas and only if they are wearing the prescribed level of protection. Entrance of all personnel must be approved by the SSHO.

The SSHO will maintain a Health and Safety Logbook containing the names of TurnKey-Benchmark workers and their level of protection. The zone boundaries may be changed by the SSHO as environmental conditions warrant, and to respond to the necessary changes in work locations on-site.

12.0 DECONTAMINATION

12.1 Decontamination for TurnKey-Benchmark Employees

The degree of decontamination required is a function of a particular task and the environment within which it occurs. The following decontamination procedure will remain flexible, thereby allowing the decontamination crew to respond appropriately to the changing environmental conditions that may arise at the Site. All TurnKey-Benchmark personnel on-site shall follow the procedure below, or the Contractor's procedure (if applicable), whichever is more stringent.

Station 1 - Equipment Drop: Deposit visibly contaminated (if any) re-useable equipment used in the contamination reduction and exclusion zones (tools, containers, monitoring instruments, radios, clipboards, etc.) on plastic sheeting.

Station 2 - Boots and Gloves Wash and Rinse: Scrub outer boots and outer gloves. Deposit tape and gloves in waste disposal container.

Station 3 - Tape, Outer Boot and Glove Removal: Remove tape, outer boots and gloves. Deposit tape and gloves in waste disposal container.

Station 4 - Canister or Mask Change: If worker leaves exclusive zone to change canister (or mask), this is the last step in the decontamination procedure. Worker's canister is exchanged, new outer gloves and boot cover donned, and worker returns to duty.

Station 5 - Outer Garment/Face Piece Removal: Protective suit removed and deposited in separate container provided by Contractor. Face piece or goggles are removed if used. Avoid touching face with fingers. Face piece and/or goggles deposited on plastic sheet. Hard hat removed and placed on plastic sheet.

Station 6 - Inner Glove Removal: Inner gloves are the last personal protective equipment to be removed. Avoid touching the outside of the gloves with bare fingers. Dispose of these gloves in waste disposal container.

Following PPE removal, personnel shall wash hands, face and forearms with absorbent wipes. If field activities proceed for a duration of 6 consecutive months or longer, shower facilities will be provided for worker use in accordance with OSHA 29 CFR

1910.120(n).

12.2 Decontamination for Medical Emergencies

In the event of a minor, non-life threatening injury, personnel should follow the decontamination procedures as defined, and then administer first-aid.

In the event of a major injury or other serious medical concern (e.g., heat stroke), immediate first-aid is to be administered and the victim transported to the hospital in lieu of further decontamination efforts unless exposure to a Site contaminant would be considered "Immediately Dangerous to Life or Health."

12.3 Decontamination of Field Equipment

Decontamination of heavy equipment will be conducted by the Contractor in accordance with his approved Health and Safety Plan in the Contamination Reduction Zone. As a minimum, this will include manually removing heavy soil contamination, followed by steam cleaning on an impermeable pad.

Decontamination of all tools used for sample collection purposes will be conducted by TurnKey-Benchmark personnel. It is expected that all tools will be constructed of nonporous, nonabsorbent materials (i.e., metal), which will aid in the decontamination effort. Any tool or part of a tool made of porous, absorbent material (i.e., wood) will be placed into suitable containers and prepared for disposal.

Decontamination of bailers, split-spoons, spatula knives, and other tools used for environmental sampling and examination shall be as follows:

- Disassemble the equipment
- Water wash to remove all visible foreign matter.
- Wash with detergent.
- Rinse all parts with distilled-deionized water.
- Allow to air dry.
- Wrap all parts in aluminum foil or polyethylene.

13.0 CONFINED SPACE ENTRY

OSHA 29 CFR 1910.146 identifies a confined space as a space that is large enough and so configured that an employee can physically enter and do assigned work, has limited or restricted means for entry and exit, and is not intended for continuous employee occupancy. Confined spaces include, but are not limited to, trenches, storage tanks, process vessels, pits, sewers, tunnels, underground utility vaults, pipelines, sumps, wells, and excavations.

Confined space entry by TurnKey-Benchmark employees is not anticipated to be necessary to complete the remedial activities identified in Section 2.0. In the event that the scope of work changes or confined space entry appears necessary, the Project Manager will be consulted to determine if feasible engineering alternatives to confined space entry can be implemented. If confined space entry by TurnKey-Benchmark employees cannot be avoided through reasonable engineering measures, task-specific confined space entry procedures will be developed and a confined-space entry permit will be issued through TurnKey-Benchmark's corporate Health and Safety Director. TurnKey-Benchmark employees shall not enter a confined space without these procedures and permits in place.

14.0 FIRE PREVENTION AND PROTECTION

14.1 General Approach

Recommended practices and standards of the National Fire Protection Association (NFPA) and other applicable regulations will be followed in the development and application of Project Fire Protection Programs. When required by regulatory authorities, the project management will prepare and submit a Fire Protection Plan for the approval of the contracting officers, authorized representative or other designated official. Essential considerations for the Fire Protection Plan will include:

- Proper Site preparation and safe storage of combustible and flammable materials.
- Availability of coordination with private and public fire authorities.
- Adequate job-site fire protection and inspections for fire prevention.
- Adequate indoctrination and training of employees.

14.2 Equipment and Requirements

Fire extinguishers will be provided by each Contractor and are required on all heavy equipment and in each field trailer. Fire extinguishers will be inspected, serviced, and maintained in accordance with the manufacturer's instructions. As a minimum, all extinguishers shall be checked monthly and weighed semi-annually, and recharged if necessary. Recharge or replacement shall be mandatory immediately after each use.

14.3 Flammable and Combustible Substances

All storage, handling or use of flammable and combustible substances will be under the supervision of qualified persons. All tanks, containers and pumping equipment, whether portable or stationary, used for the storage and handling of flammable and combustible liquids, will meet the recommendations of the National Fire Protection Association.

14.4 Hot Work

If the scope of work necessitates welding or blowtorch operation, the hot work permit presented in Appendix B will be completed by the SSHO and reviewed/issued by the Project Manager.

15.0 EMERGENCY INFORMATION

In accordance with OSHA 29 CFR Part 1910, an Emergency Response Plan is attached to this HASP as Appendix A. The hospital route map is presented within Appendix A as Figure A-1.

16.0 REFERENCES

1. Buffalo Drilling Company, Inc. Site Inspection Report, 399 Ohio Street, Buffalo, New York. June 1995.

2. Construction Lending Services, Inc. (CLS). Limited Phase I Environmental Site Assessment Report, 399 Ohio Street, Buffalo, New York. November 2005.

3. TurnKey Environmental Restoration, LLC. Limited Phase II Environmental Investigation Report, 399 Ohio Street, Buffalo, New York. November 2013.

4. TurnKey Environmental Restoration, LLC. Remedial Investigation Work Plan, 399 Ohio Street Site (C915287), Buffalo, New York. revised November 2014.

5. TurnKey Environmental Restoration, LLC, in association with Benchmark Environmental Engineering & Science, PLLC, Remedial Investigation/Alternative Analysis Report (RI/AAR) Report, 399 Ohio Street Site, Buffalo, NY, BCP Site No. C915287, prepared for 1093 Group, LLC. July 2015.

6. New York State Department of Health. 2010. *Generic Community Air Monitoring Plan, Appendix 1A, Draft DER-10 Technical Guidance for Site Investigation and Remediation.* November 29.

7. TurnKey Environmental Restoration, LLC. 2015. *Remedial Action Work Plan, 399 Ohio Street Site, Buffalo, New York.* Prepared for 1093 Group, LLC in July 2015.

TABLES

TURNKEY

TABLE 1

TOXICITY DATA FOR CONSTITUENTS OF POTENTIAL CONCERN

399 Ohio Street Site
Buffalo, New York

Parameter	Synonyms	CAS No.	Code	Concentration Limits		
				PEL	TLV	IDLH
Semi-volatile Organic Compounds (SVOCs) : ppm						
Benzo(a)anthracene	*none*	56-55-3	*none*	--	--	--
Benzo(a)pyrene	*none*	50-32-8	*none*	--	--	--
Benzo(b)fluoranthene	*none*	205-99-2	*none*	--	--	--
Dibenzo(a,h)anthracene	*none*	53-70-3	*none*	--	--	--
Indeno(1,2,3-cd)pyrene	*none*	193-39-5	*none*	--	--	--
Inorganic Compounds: ppm						
Arsenic	*none*	7440-38-2	Ca	0.01	0.01	5
Cadmium	*none*	7440-43-9	Ca	0.005	0.01	9

Ca = NIOSH considers constituent to be a potential occupational carcinogen.
IDLH = Immediately Dangerous to Life or Health.
TLV = Threshold Limit Value, established by American Conference of Industrial Hygienists (ACGIH), equals the maximum exposure concentration allowable for 8 hours/day @ 40 hours/week.

TLVs are the amounts of chemicals in the air that almost all healthy adult workers are predicted to be able to tolerate without adverse effects. There are three types.

TLV-TWA (TLV-Time-Weighted Average) which is averaged over the normal eight-hour day/forty-hour work week. (Most TLVs.)

TLV-STEL or Short Term Exposure Limits are 15 minute exposures that should not be exceeded for even an instant. It is not a stand alone value but is accompanied by the TLV-TWA.

TLV-C or Ceiling limits are the concentration that should not be exceeded during any part of the working exposure.

Unless the initials "STEL" or "C" appear in the Code column, the TLV value should be considered to be the eight-hour TLV-TWA.

PEL = Permissible Exposure Limit, established by OSHA, equals the maximium exposure conconcentration allowable for 8 hours per day @ 40 hours per week

TURNKEY

TABLE 2

POTENTIAL ROUTES OF EXPOSURE TO THE CONSTITUENTS OF POTENTIAL CONCERN

399 Ohio Street
Buffalo, New York

Activity [1]	Direct Contact with Soil/Fill	Inhalation of Vapors or Dust	Direct Contact with Groundwater
Remedial Investigation Tasks			
Excavation & Offsite Disposal of Contaminant Source Areas	x	x	
Soil Confirmation Sampling	x	x	
Monitoring Well Sampling	x	x	x

Notes:
1. Activity as described in Section 1.5 of the Health and Safety Plan.

TURNKEY

TABLE 3

REQUIRED LEVELS OF PROTECTION
FOR REMEDIAL ACTIVITIES

399 Ohio Street Site
Buffalo, New York

Activity	Respiratory Protection [1]	Clothing	Gloves [2]	Boots [2, 3]	Other Required PPE/Modifications [2, 4]
Remedial Investigation Tasks					
Excavation & Offsite Disposal of Contaminant Source Areas	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	HH SGSS
Soil Confirmation Sampling	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	HH SGSS
Monitoring Well Sampling	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	SGSS
Remedial Measures Tasks					
Soil Excavation	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	HH SGSS
Backfilling	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	HH SGSS
Verification Sampling	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	HH SGSS
Groundwater and Surface Water Management	Level D (upgrade to Level C if necessary)	Work Uniform or Tyvek	L/N	outer: L inner: STSS	HH SGSS

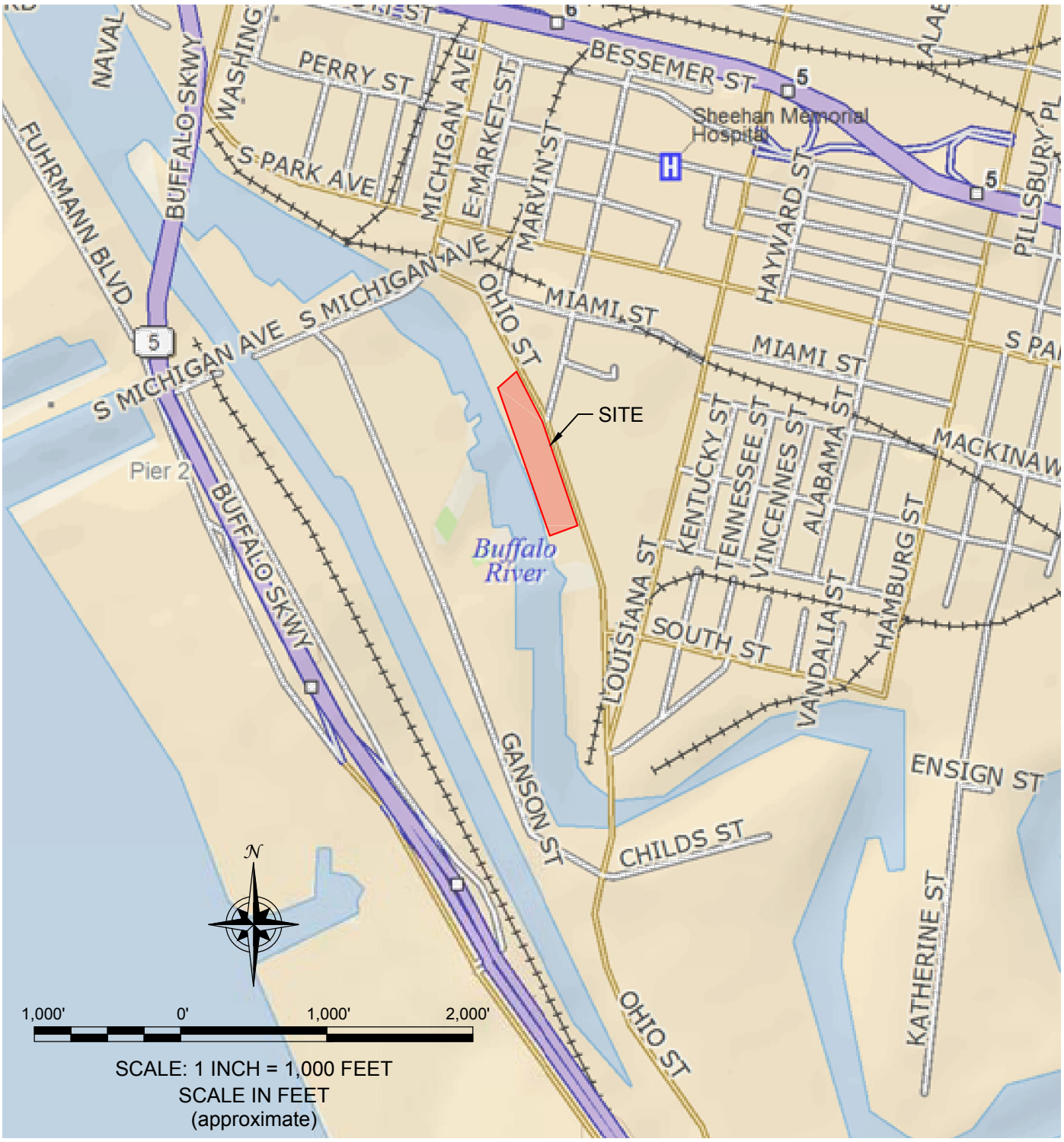
Notes:

1. Respiratory equipment shall conform to guidelines presented in Section 7.0 of this HASP. The Level C requirement is an air-purifying respirator equiped with organic compound/acid gas/dust cartridge.
2. HH = hardhat; L= Latex; L/N = latex inner glove, nitrile outer glove; N = Nitrile; SGSS = safety glasses with sideshields; STSS = steel toe safety shoes.
3. Latex outer boot (or approved overboot) required whenever contact with contaminated materials may occur. SSHO may downgrade to STSS (steel-toed safety shoes) if contact will be limited to cover/replacement soils.
4. Dust masks shall be donned as directed by the SSHO (site safety and health officer) or site safety technician whenever potentially contaminated airborne particulates (i.e., dust) are present in significant amounts in the breathing zone. Goggles may be substituted with safety glasses w/side-shields whenever contact with contaminated liquids is not anticipated.

FIGURES

F:\CAD\TurnKey\Elliott Development\399 Ohio Street BCP\SFMP\Figure 1; Site Location and Vicinity Map.dwg

FIGURE 1



TurnKey Environmental Restoration, LLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: 0136-013-011

DATE: MARCH 2016

DRAFTED BY: JJR

SITE LOCATION AND VICINITY MAP

HEALTH AND SAFETY PLAN

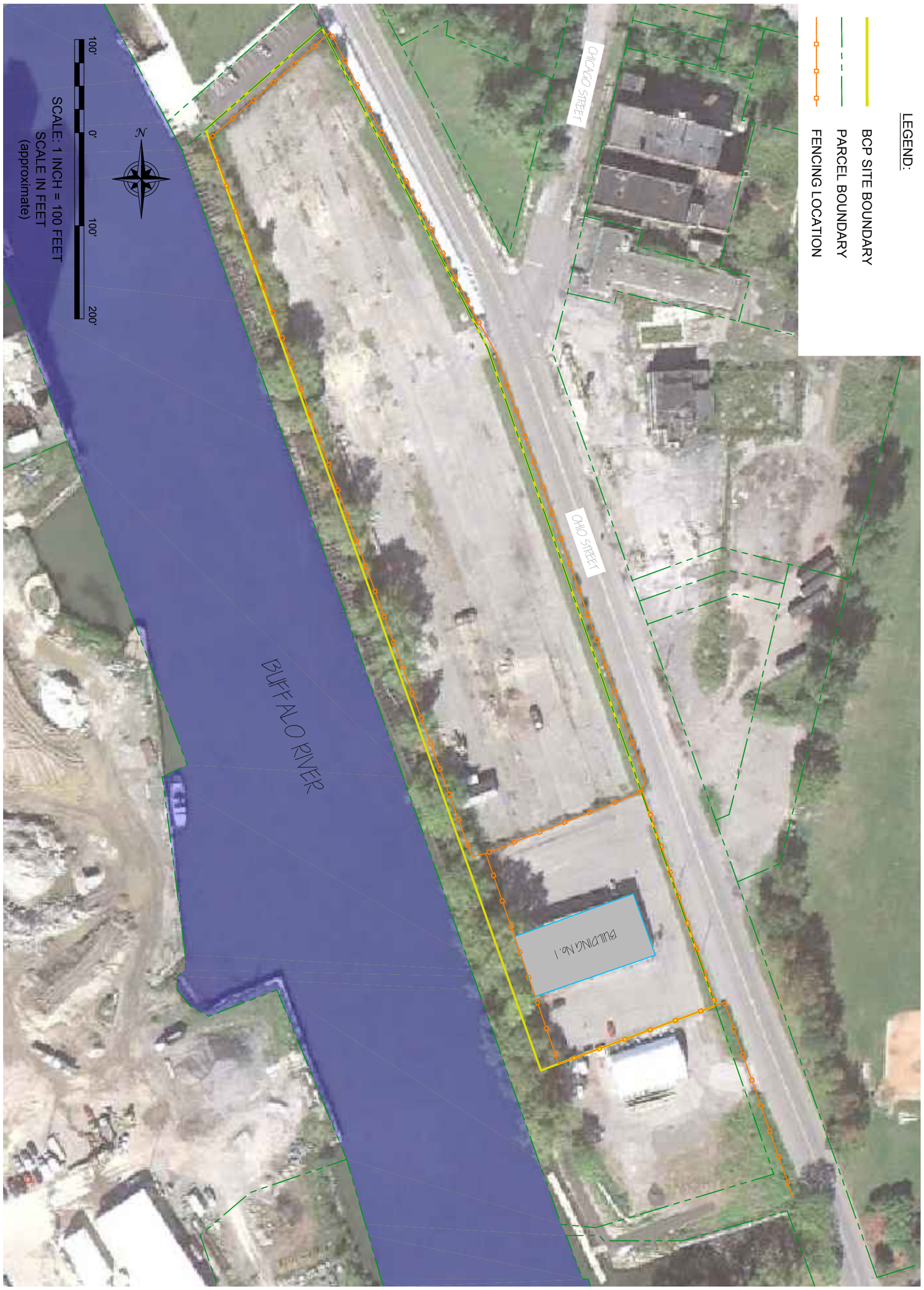
399 OHIO STREET SITE

BUFFALO, NEW YORK

PREPARED FOR

1093 GROUP, LLC

DATE: MARCH 2016
DRAFTED BY: JJR



SITE PLAN (AERIAL)

HEALTH AND SAFETY PLAN

399 OHIO STREET SITE

BUFFALO, NEW YORK

PREPARED FOR

1093 GROUP, LLC

FIGURE 2

TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

JOB NO.: 0136-013-011

APPENDIX A

EMERGENCY RESPONSE PLAN

EMERGENCY RESPONSE PLAN
for
BROWNFIELD CLEANUP PROGRAM
REMEDIAL ACTIVITIES

399 OHIO STREET SITE
BUFFALO, NEW YORK

March 2016 0136-013-011

Prepared for:

1093 GROUP, LLC

399 OHIO STREET SITE
HEALTH AND SAFETY PLAN FOR REMEDIAL ACTIVITIES
APPENDIX A: EMERGENCY RESPONSE PLAN

TABLE OF CONTENTS

LIST OF FIGURES

1.0 GENERAL

This report presents the site-specific Emergency Response Plan (ERP) referenced in the Site Health and Safety Plan (HASP) prepared for the remedial activities at the 399 Ohio Street Site in Buffalo, New York. This appendix of the HASP describes potential emergencies that may occur at the Site; procedures for responding to those emergencies; roles and responsibilities during emergency response; and training all workers must receive in order to follow emergency procedures. This ERP also describes the provisions this Site has made to coordinate its emergency response planning with other contractors on-site and with off-site emergency response organizations.

This ERP is consistent with the requirements of 29 CFR 1910.120(l) and provides the following site-specific information:

- Pre-emergency planning.
- Personnel roles, lines of authority, and communication.
- Emergency recognition and prevention.
- Safe distances and places of refuge.
- Evacuation routes and procedures.
- Decontamination procedures.
- Emergency medical treatment and first aid.
- Emergency alerting and response procedures.
- Critique of response and follow-up.
- Emergency personal protective equipment (PPE) and equipment.

2.0 PRE-EMERGENCY PLANNING

This Site has been evaluated for potential emergency occurrences, based on site hazards, the required work tasks, the site topography, and prevailing weather conditions. The results of that evaluation indicate the potential for the following site emergencies to occur at the locations indicated.

Type of Emergency:

1. Medical, due to physical injury
2. Fire

Source of Emergency:

1. Slip/trip/fall
2. Fire

Location of Source:

1. Non-specific

3.0 ON-SITE EMERGENCY RESPONSE EQUIPMENT

Emergency procedures may require specialized equipment to facilitate worker rescue, contamination control and reduction, or post-emergency clean up. Emergency response equipment available on the Site is listed below. The equipment inventory and storage locations are based on the potential emergencies described above. This equipment inventory is designed to meet on-site emergency response needs and any specialized equipment needs that off-site responders might require because of the hazards at this Site but not ordinarily stocked.

Any additional personal protective equipment (PPE) required and stocked for emergency response is also listed below. During an emergency, the Emergency Response Coordinator (ERC) is responsible for specifying the level of PPE required for emergency response. At a minimum, PPE used by emergency responders will comply with Section 7.0, Personal Protective Equipment, of the HASP. Emergency response equipment is inspected at regular intervals and maintained in good working order. The equipment inventory is replenished as necessary to maintain response capabilities.

Emergency Equipment	Quantity	Location
First Aid Kit	1	Site Vehicle
Chemical Fire Extinguisher	2 (minimum)	All heavy equipment and Site Vehicle

Emergency PPE	Quantity	Location
Full-face respirator	1 for each worker	Site Vehicle
Chemical-resistant suits	4 (minimum)	Site Vehicle

4.0 EMERGENCY PLANNING MAPS

An area-specific map of the Site will be developed on a daily basis during performance of field activities. The map will be marked to identify critical on-site emergency planning information, including: major topographical features, emergency evacuation routes, a place of refuge, an assembly point, and the locations of key site emergency equipment. Site zone boundaries will be shown to alert responders to known areas of contamination. The direction of prevailing winds/weather conditions that could affect emergency response planning are also marked on the map. The map will be posted at site-designated place of refuge and inside the TurnKey personnel field vehicle.

5.0 EMERGENCY CONTACTS

The following identifies the emergency contacts for this ERP.

Emergency Telephone Numbers:

Project Manager: ***Michael Lesakowski***
Work: (716) 856-0599
Mobile: (716) 818-3954

Corporate Health and Safety Director: ***Thomas H. Forbes, P.E.***
Work: (716) 856-0599
Mobile: (716) 864-1730

Site Safety and Health Officer (SSHO): ***Bryan C. Hann***
Work: (716) 856-0635
Mobile: (716) 870-1165

Alternate SSHO: ***Nathan Munley***
Work: (716) 856-0635
Mobile: (716) 289-1072

BUFFALO GENERAL HOSPITAL (ER):	(716) 859-5600
FIRE:	911
AMBULANCE:	911
BUFFALO POLICE:	911
STATE EMERGENCY RESPONSE HOTLINE:	(800) 457-7362
NATIONAL RESPONSE HOTLINE:	(800) 424-8802
NYSDOH:	(518) 402-7860
NYSDEC:	(716) 851-7220
NYSDEC 24-HOUR SPILL HOTLINE:	(800) 457-7252

The Site location is:
399 Ohio Street Site
301-399 Ohio Street
Buffalo, New York 14204
Site Phone Number: (Insert Cell Phone or Field Trailer): _____

6.0 EMERGENCY ALERTING & EVACUATION

Internal emergency communication systems are used to alert workers to danger, convey safety information, and maintain site control. Any effective system can be employed. Two-way radio headsets or field telephones are often used when work teams are far from the command post. Hand signals and air-horn blasts are also commonly used. Every system must have a backup. It shall be the responsibility of each contractor's Site Health and Safety Officer to ensure an adequate method of internal communication is understood by all personnel entering the site. Unless all personnel are otherwise informed, the following signals shall be used.

1) Emergency signals by portable air horn, siren, or whistle: two short blasts, personal injury; continuous blast, emergency requiring site excavation.

2) Visual signals: hand gripping throat, out of air/cannot breathe; hands on top of head, need assistance; thumbs up, affirmative/ everything is OK; thumbs down, no/negative; grip partner's wrist or waist, leave area immediately.

If evacuation notice is given, site workers leave the worksite with their respective buddies, if possible, by way of the nearest exit. Emergency decontamination procedures detailed in Section 12.0 of the HASP are followed to the extent practical without compromising the safety and health of site personnel. The evacuation routes and assembly area will be determined by conditions at the time of the evacuation based on wind direction, the location of the hazard source, and other factors as determined by rehearsals and inputs from emergency response organizations. Wind direction indicators are located so that workers can determine a safe up wind or cross wind evacuation route and assembly area if not informed by the emergency response coordinator at the time the evacuation alarm sounds. Since work conditions and work zones within the site may be changing on daily basis, it shall be the responsibility of the construction Site Health and Safety Officer to review evacuation routes and procedures as necessary and to inform all TurnKey-Benchmark workers of any changes.

Personnel exiting the site will gather at a designated assembly point. To determine that everyone has successfully exited the site, personnel will be accounted for at the assembly

site. If any worker cannot be accounted for, notification is given to the SSHO (***Bryan Hann*** or ***Nathan Munley***) so that appropriate action can be initiated. Contractors and subcontractors on this site have coordinated their emergency response plans to ensure that these plans are compatible and that source(s) of potential emergencies are recognized, alarm systems are clearly understood, and evacuation routes are accessible to all personnel relying upon them.

7.0 EXTREME WEATHER CONDITIONS

In the event of adverse weather conditions, the Site Safety and Health Officer in conjunction with the Contractor's SSHO will determine if engineering operations can continue without sacrificing the health and safety of site personnel. Items to be considered prior to determining if work should continue include but are not limited to:

- Potential for heat/cold stress.
- Weather-related construction hazards (e.g., flooding or wet conditions producing undermining of structures or sheeting, high wind threats, etc).
- Limited visibility.
- Potential for electrical storms.
- Limited site access/egress (e.g., due to heavy snow)

8.0 EMERGENCY MEDICAL TREATMENT & FIRST AID

Personnel Exposure:

The following general guidelines will be employed in instances where health impacts threaten to occur or acute exposure is realized:

- Skin Contact: Use copious amounts of soap and water. Wash/rinse affected area for at least 15 minutes. Decontaminate and provide medical attention. Eyewash stations will be provided on site. If necessary, transport to Buffalo General Hospital.

- Inhalation: Move to fresh air and, if necessary, transport to Buffalo General Hospital.

- Ingestion: Decontaminate and transport to Buffalo General Hospital.

Personal Injury:

Minor first-aid will be applied on-site as deemed necessary. In the event of a life threatening injury, the individual should be transported to Buffalo General Hospital via ambulance. The Site Health and Safety Officer will supply available chemical specific information to appropriate medical personnel as requested.

First aid kits will conform to Red Cross and other applicable good health standards, and shall consist of a weatherproof container with individually sealed packages for each type of item. First aid kits will be fully equipped before being sent out on each job and will be checked weekly by the SSHO to ensure that the expended items are replaced.

Directions to Buffalo General Hospital (see Figure 1):

The following directions describe the best route from the Site to Buffalo General Hospital:

- Travel North along Ohio St. toward Chicago St.
- Turn left to stay on Ohio St.
- Turn right onto Michigan Ave.
- Turn left onto High St. Follow signs to ER at 100 High St on the right.

9.0 EMERGENCY RESPONSE CRITIQUE & RECORD KEEPING

Following an emergency, the SSHO and Project Manager shall review the effectiveness of this Emergency Response Plan (ERP) in addressing notification, control and evacuation requirements. Updates and modifications to this ERP shall be made accordingly. It shall be the responsibility of each contractor to establish and assure adequate records of the following:

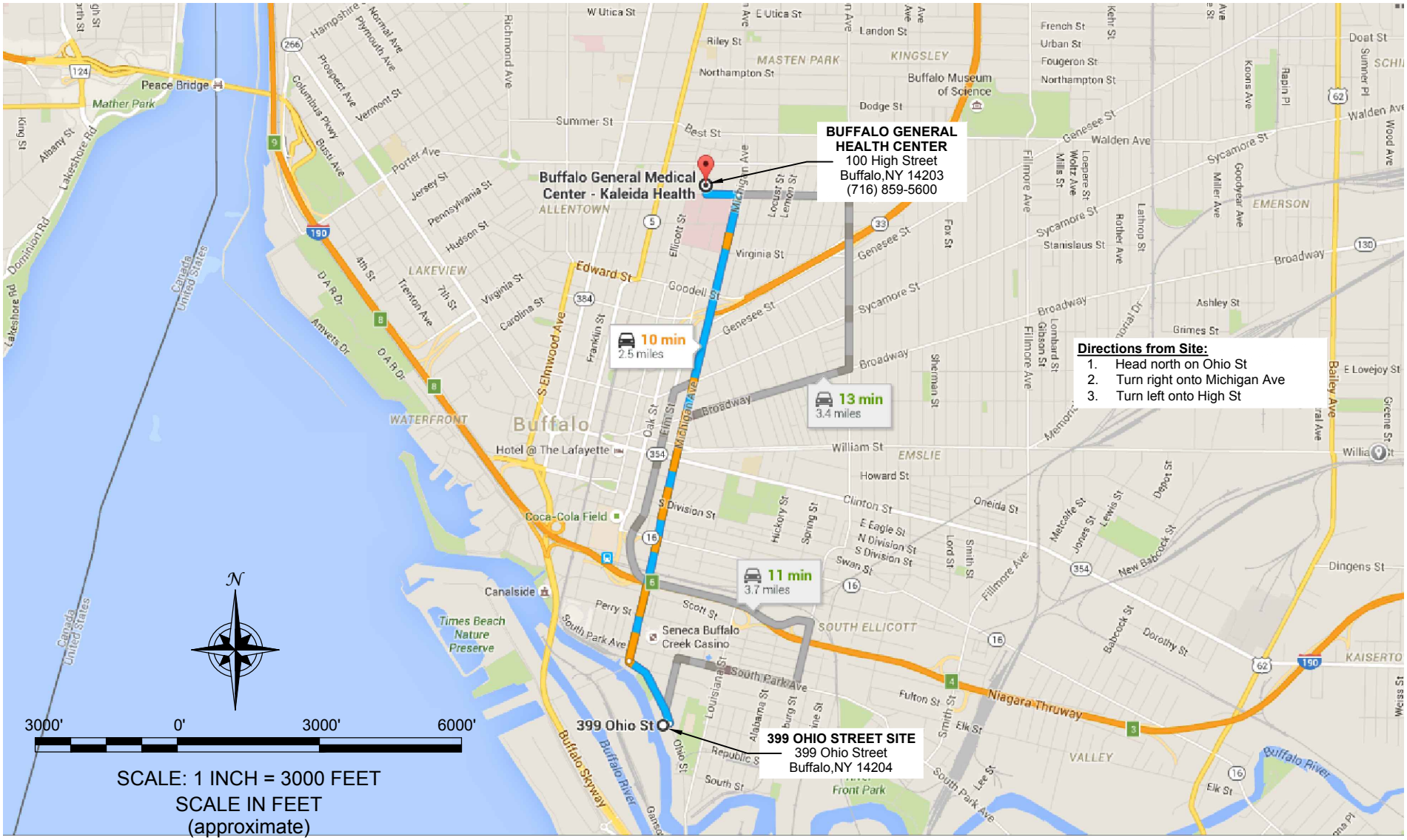
- Occupational injuries and illnesses.
- Accident investigations.
- Reports to insurance carrier or State compensation agencies.
- Reports required by the client.
- Records and reports required by local, state, federal and/or international agencies.
- Property or equipment damage.
- Third party injury or damage claims.
- Environmental testing logs.
- Explosive and hazardous substances inventories and records.
- Records of inspections and citations.
- Safety training.

10.0 EMERGENCY RESPONSE TRAINING

All persons who enter the worksite, including visitors, shall receive a site-specific briefing about anticipated emergency situations and the emergency procedures by the SSHO. Where this site relies on off-site organizations for emergency response, the training of personnel in those off-site organizations has been evaluated and is deemed adequate for response to this site.

FIGURES

F:\CAD\Benchmark\441 Ohio Street LLC\RAWP\HASP\APPENDIX A\Figure A-1 ; Hospital Route Map.dwg



TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: 0136-013-011

DATE: MARCH 2016

DRAFTED BY: CMC

HOSPITAL ROUTE MAP

EMERGENCY RESPONSE PLAN

399 OHIO STREET SITE

BUFFALO, NEW YORK

PREPARED FOR

1093 GROUP, LLC

FIGURE A-1

APPENDIX B

HOT WORK PERMIT FORM

HOT WORK PERMIT

PART 1 - INFORMATION

Issue Date:	
Date Work to be Performed: Start:	Finish (permit terminated):
Performed By:	
Work Area:	
Object to be Worked On:	

PART 2 - APPROVAL

(for 1, 2 or 3: mark Yes, No or NA)*

Will working be on or in:	Finish (permit terminated):	
1. Metal partition, wall, ceiling covered by combustible material?	yes	no
2. Pipes, in contact with combustible material?	yes	no
3. Explosive area?	yes	no

* = If any of these conditions exist (marked "yes"), a permit will not be issued without being reviewed and approved by Thomas H. Forbes (Corporate Health and Safety Director). Required Signature below.

PART 3 - REQUIRED CONDITIONS**

(Check all conditions that must be met)

	PROTECTIVE ACTION		PROTECTIVE EQUIPMENT
	Specific Risk Assessment Required		Goggles/visor/welding screen
	Fire or spark barrier		Apron/fireproof clothing
	Cover hot surfaces		Welding gloves/gauntlets/other:
	Move movable fire hazards, specifically		Wellintons/Knee pads
	Erect screen on barrier		Ear protection: Ear muffs/Ear plugs
	Restrict Access		B.A.: SCBA/Long Breather
	Wet the ground		Respirator: Type:
	Ensure adequate ventilation		Cartridge:
	Provide adequate supports		Local Exhaust Ventilation
	Cover exposed drain/floor or wall cracks		Extinguisher/Fire blanket
	Fire watch (must remain on duty during duration of permit)		Personal flammable gas monitor
	Issue additional permit(s):		

Other precautions:

** Permit will not be issued until these conditions are met.

SIGNATURES

Orginating Employee:	Date:
Project Manager:	Date:
Part 2 Approval:	Date:

APPENDIX C

NYSDOH GENERIC COMMUNITY AIR MONITORING PLAN

Appendix C1
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

Appendix C2
Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50^{o} C (14 to 122^{o} F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and
(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

APPENDIX B

STORM WATER POLLUTION PREVENTION PLAN

ENGINEERS REPORT & STORMWATER POLLUTION PREVENTION PLAN

for

301-399 OHIO STREET
MIXED-USE FACILITY
CITY OF BUFFALO, NY

November 10, 2015

Prepared By:

tredo
ENGINEERS

CIVIL | STRUCTURAL | ENGINEERING

755 Seneca Street, Suite 202
Buffalo, New York 14210
716.876.7147 ph

Seal

For:

Ellicott Development Co
Ellicott Square Bldg
Buffalo, NY 14203

tredo
ENGINEERS

I. SUMMARY

This project includes the construction of mixed-use, 5-story facility containing (21) apartment units, office space and a potential first floor restaurant tenant. The proposed facility shall be located north of Chicago St. on the west side of Ohio Street on a 6.8± acre developed parcel along the northeast banks of the Buffalo River. Current site conditions in the area of development consist of a fenced and paved surface parking lot. The parcel also contains a boat storage facility and rowing club and a contractor's storage garage. The redevelopment area required to install the building, pavements and utilities is approximately 1.3 acres. Within the disturbance area, approximately 0.3 acres of impervious surfaces shall be removed to provide a 23% reduction in cover replaced with lawns, landscape beds and a potential sand volleyball court.

New water services shall be provided by the public 8-inch watermain located on the east side of Ohio Street. Domestic and fire-protection services shall be brought into the building on the east wall with metering and backflow prevention devices inside the facility mechanical room.

Sanitary sewer service shall be provided with a new connection made on the existing 6-inch lateral pipe extended to the parcel and flowing to the public sanitary sewer in Ohio Street. A new 6-inch PVC lateral shall be extended from the east wall of the facility to the proposed tap.

Currently, storm water runoff generated by the site flows overland east and west into the Ohio Street storm sewer system and the Buffalo River. After the proposed development occurs, runoff from the new building roofs and paved surface parking lot will be collected and conveyed to an underground water treatment vault prior to discharge into the Buffalo River.

This project is required to comply with the re-development regulations and water quality requirements of the Phase II regulations of the NYSDEC SPDES Permit for Discharge of Stormwater as the total soil disturbance area is more-than the one-acre threshold within a previously developed parcel area. The redevelopment regulations require the Water Quality (WQv) treatment of 75% of the runoff generated by the area of disturbance and with no Runoff Reduction (RRv) required. However, the Channel Protection (CPv), Overbank Flood (Qp10) & Extreme Flood (Qp100) storm detention requirements of this permit are not required as the discharge is directly to the Buffalo River. The Notice of Intent and MS4 Acceptance forms are contained in Appendix C for application to NYSDEC. A consultation request for a 'no impact' statement has also been filed thru the Cultural Resource Information System (CRIS) of the NYSOHRP (SHPO) to gain this permit. The resulting 'no impact' statement from NYSOHRP is included herein.

A Joint Permit Application to the US Army Corp of Engineers (USACOE) as contained in Appendix C, was submitted for review to determine if there is a Nationwide Permit (NWP-12) required to core-drill the existing private 'seawall' for the discharge of stormwater. The scope of development does not proposed to disturb the bed and banks of the Buffalo River and as such, it is determined by USACOE that a NWP is **not** required for this installation.

II. WATER SERVICE

New water services for domestic consumption and fire-protection will be connected to the existing 8-inch public main located in Ohio Street. The proposed facility will contain a 6" ductile-iron service and fire-suppression sprinkler system with public fire hydrants along Ohio St. providing fire-protection coverage to the 5-story structure. A fire lane through the paved parking lot adjacent to the tower structure (> 30-ft high) is provided for fire-apparatus egress.

A new 4-inch ductile domestic service is proposed for the residential units, office tenants and restaurant use. Domestic usage is estimated at 160 gal/min peak for various simultaneous uses within the facility. Metering and backflow prevention is contained within the facility water room. A Backflow Prevention Application shall be provided, by others, to the Buffalo Water Authority on behalf of the water customer.

III. SANITARY SEWER SERVICE

The existing public 8-inch sanitary sewer within the subject parcel frontage of Ohio Street will provide waste conveyance from the proposed multi-use facility. The proposed development will generate a calculated 3630 gal/day (gpd) of residential sanitary load as per the following: 2 bed unit (x12) + 1 bed unit (x9) at 110 gpd*/bedroom ~ 3630 gal/day (0.0036 MGD). Ref. architectural plans for total of (21) apartment units and (33) bedrooms. The population served shall be based on double occupancy of a single bedroom = 33x2 = 66. Reference the Downstream Sewer Flow Monitoring Report contained in Appendix E and NYSDEC Application for Approval of Plans for a Wastewater Disposal System as a requirement of the sewer district for residential waste loading over 2500 gal/day. The following office space and restaurant loading is discounted in this analysis:

This facility also contains a second floor office tenant space which will generate a calculated 1300 gal/day (gpd) as per the following: 0.10 gpd/sf* x 13,000sf ~ 1300 gal/day. Ref. architectural plans for office space layout. We are utilizing this square-footage estimation calculation in lieu of the number of employees as this is indeterminate at this time.

In addition, a potential first floor restaurant tenant will generate a calculated 28,000 gal/day total as per the following: 35 gpd/seat* x 800 seats ~ 28,000 gal/day. Ref. architectural plans for restaurant and seating layout.

The estimated maximum potential daily loading is thus **32,930 gal/day (0.033 MGD)**. The proposed sanitary lateral will be a 6-inch PVC (SDR35) connecting to the existing 6-inch lateral found previously installed to the parcel, and inspected per the requirements of the Buffalo Sewer Authority. A cast iron vent and trap shall be installed at the facility entry point along the east wall, with a PVC cleanout installed at the connection point, for maintenance. A 6-inch diameter lateral pipe sloped at 2% is capable of conveying approx. 386 gpm and over 500,000 gpd.

*Reference "NYS Design Standards for Intermediate Sized Treatment Works, March 2014".

IV. BACKGROUND INFORMATION

I. Project Description

This project includes the construction of (21) apartment units in a 5-story, multi-use facility also containing office space and a first floor restaurant. The proposed facility shall be located north of Chicago St. on the west side of Ohio Street on a 6.8± acre developed parcel along the northeast banks of the Buffalo River.

II. Existing (Pre-Development) Conditions

The parcel area considered for this development currently contains a paved surface parking lot.

III. Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils within the proposed project disturbance area consists of Type Ud, Urban development, Group D. (ref USDA Soils Survey)

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have high shrink-swell potential, soils that have a high water table, soils that have a clay pan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

IV. Proposed (Post-Development) Conditions

Storm water generated by the new development will flow to receivers and an underground flow-thru water treatment vault prior to discharge into the Buffalo River. The existing receivers and storm piping in the vicinity of the new building are proposed be removed.

The water quality treatment of runoff utilizes an underground flow-thru filter media vault listed as an acceptable proprietary alternate SMP product by the NYSDEC. Refer to Appendix B for treatment vault sizing, which is based on the flow/treatment capacities of the manufacturer's literature. The vessel is intended to remove 80% of Total Suspended Solids (TSS).

The proposed discharge of stormwater directly to the Buffalo River, a fifth order stream, does not require detention.

V. STORMWATER MANAGEMENT

I. Design Criteria

The design of the storm water facilities will be in accordance with the following:

i. New York State Department of Environmental Conservation (NYSDEC) SPDES Permit for Storm Water Discharges from a Construction Activity

II. Stormwater Conveyance

The stormwater runoff generated by this development will be collected and conveyed to an underground water treatment vault before being discharged to the Buffalo River. A second outfall from the proposed recreational sand volleyball court underdrain system also discharges to the Buffalo River. The end pipe outfall conditions shall be core-drilled thru the existing private seawall. No work is involved in the bed and banks of the Buffalo River thus no USACOE permit is deemed necessary. Future development within the bed and banks of the Buffalo River is not included in this contract.

Tributary roof areas were estimated for the receivers that the runoff drains to and the runoff directly tributary to the water treatment vault; each was calculated using the Rational Method. Ref. Appendix B for stormwater pipe sizing calculations.

III. Stormwater Detention

According to the BSA policy for storm water drainage, detention is required when the storm water runoff from a site is increased due to the increase in impervious surfaces resulting from a new development. The proposed construction of the multi-use facility over an existing parking lot will result in a decrease in impervious surfaces by providing lawn and landscape areas. The proposed discharge of stormwater to the Buffalo River is not jurisdictional to the BSA thus storm water detention is not required.

In providing water quality treatment sizing for low-flow conditions, we have utilized the NYSDEC SWDM redevelopment chapter #9: The total WQv required is calculated as 0.080 ac-ft. While only 75% of the WQv is required be treated under redevelopment regulations, the alternate method Stormwater Management Practice (SMP) selected is capable of treating 100% by flow-thru media filtration of the calculated 1.53 cfs peak WQv flow, and is also capable of internal bypass of the approx. 4.0 cfs Qp10 storm without backup. Thus the selected alternate SMP is not required to be routed 'off-line' for the higher-event storm conveyance.

The water filtration vault shall be constructed to withstand HS-20 wheel loading and a maintenance schedule for cleaning provided to the Owner. Ref. Appendix B for WQv calculations and cut sheet for the alternate SMP selected.

VI. COMPONENTS OF EROSION CONTROL

I. Daily Site Maintenance (Performed by Owner/Contractor)

At the beginning and end of each day of construction, the Contractor shall walk the site to determine the presence of any extraneous material (litter) and to review all stormwater outfall locations. All debris shall be picked up and disposed of in an appropriate manner.

Construction chemicals shall be stored in an area that is away from any temporary or permanent stormwater drainage facilities and in an area that is elevated above ground surface, so that surface water runoff does not deteriorate the associated container/bag. All containers shall be adequately sealed at the end of each workday or at the end of use. Large fuel tank(s), if required, shall be located within a secondary containment vessel, size equal to or greater than the capacity of the fuel tank used.

Construction debris shall be stockpiled in one particular area within the site that is located away from any permanent or temporary storm drainage facility. All construction debris shall be removed from the site and disposed of in an appropriate manner. Locate trash receptacle on high ground so as not to allow stormwater runoff to collect within the bin(s). The material/equipment storage shall be monitored on a daily basis for any identified chemical (oil, grease, etc.) spills.

II. Construction Sequence

- Obtain all necessary shop drawing approvals and applicable permits.
- Conduct a pre-construction meeting.
- Perform stakeout of property limits and facilities.
- Utilize the existing paved driveway entrance for construction vehicles; install wheel wash/dust control station from an existing hydrant (permit required) or portable water tank.
- Install silt fencing where shown.
- Remove existing pavements from the project site, and placement and compaction of fill as needed.
- Construct site utilities, stormwater drainage inlets, piping and basins. Install all remaining protection measures including backfill to one-foot below rim of receivers (drop inlet protection).
- Construct and install building and pavements.
- Maintain all erosion and sediment control devices throughout the construction period.
- Final grade entire site including topsoil placement, seed and mulch landscaped areas.
- Remove silt fence and other erosion control devices after vegetation has been established in topsoil/seeded areas.

III. Post Construction Operation & Maintenance (**Performed by Owner**)

a. On a quarterly basis and following rain events of 0.5-inch or greater, perform the following:

1. Inspect catch basins and storm piping for debris and sediments;
2. Remove and properly dispose of any collected debris from the structures;
3. Flush piping with water, if necessary to remove accumulated sediment.
4. Inspect grassed/landscaped areas for un-vegetated area or areas with less than 80% healthy stand of grass and reseed and mulch as necessary. Water areas daily if reseeded through July and August.
5. Maintain all lawn areas by regular mowing, including the grassed slopes and bottom of the stormwater detention basin and drainage swales. Any eroded areas shall be re-graded, seeded and mulched immediately.
6. Maintain, clean and replace filter media cloth as recommended by the supplier of the WQv treatment vault. Provide general clean-out.

VII OWNER RESPONSIBILITIES

The responsible party for implementation of all components of the stormwater Pollution Prevention Plan (SWPPP) will be 1093 Group, LLC and represented by Ellicott Development Co. who will be responsible for meeting the requirements as defined within this SWPPP and the conditions of the SPDES General Permit GP-0-15-002. These responsibilities include but are not necessarily limited to the following:

- An initial site assessment shall be performed prior to start of construction.
- Ensure that daily site maintainers and weekly maintenance requirements are met.
- Notify all contractors and subcontractors of the required practices and will also be responsible for making sure that a qualified professional (as defined by the SPDES General Permit) completes the required inspection services.
- He shall ensure that the SWPPP is kept current and is amended whenever there is a significant change in design, construction, operation or maintenance or if the SWPPP proves to be ineffective or when any new contractor or subcontractor will be implementing any measures of the SWPPP.
- He shall ensure that all inspection reports are maintained in a site log book, that a current copy of the SWPPP, NOI and other related documentation are kept on-site and are readily available for review by NYSDEC, the Town or other interested parties from the date of initiation of construction activities until the date of final site stabilization.
- He shall post at the site, in a publicly accessible location, a summary of the site inspection activities on a monthly basis. (Recommend a mailbox mounted on pole)
- He shall prepare a written summary of its status with respect to compliance with the SPDES General Permit at least once every three (3) months during which coverage under the permit exists. The summary should address the status of achieving each component of the SWPPP.
- Upon final site stabilization, a final site inspection shall be performed.
- He shall file a Notice of Termination (NOT) with NYSDEC identifying the

termination of permit coverage (a copy of blank NOT is included herein).
- He shall retain copies of all SWPPP and related documents for a period of at least five (5) years from the date the site is finally stabilized.
- He shall provide a Stormwater Observation and Report five (5) years from the date the site is finally stabilized to the MS4 (township stormwater officer) prepared by a licensed erosion control inspector or NYSPE.

VII. OWNER/OPERATOR CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that false statements made here in are punishable as a Class A Misdemeanor pursuant to Section 210.45 of the Penal Law."

_____ _____
Owner/Operator Signature Title

_____ ___/___/___
Name (Printed) Date

VI. *CONTRACTOR CERTIFICATION:

"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I am aware that there are significant penalties for submitting false information that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations."

_____ _____
Contractor Signature Title

_____ ___/___/___
Name (Printed) Date

- Note: Only contractors/subs that disturb soil or implement SMP's and Erosion Control measures are required to sign.

VIII. PERMITS

The proposed construction of the mixed-use structure, parking lot and utilities must receive approvals from the City of Buffalo Permit office and Buffalo Sewer and Water Authorities. A Notice of Intent and MS4 Acceptance must be completed for application to the NYSDEC SPDES Permit for Stormwater Discharge from a construction activity. A Joint Permit Application to the USACOE and a consultation request from NYSOHRP has been made on behalf of the applicant.

PLANNED EROSION AND SEDIMENTATION CONTROL PRACTICES

1. **Construction Entrance/Exit:** A paved driveway entrance shall be utilized from Ohio Street. **A wheel wash station** shall be installed adjacent to the driveway connected to the public hydrant with an approved backflow preventer and meter – or – the contractor may elect to use a water storage tank. All vehicles exiting onto public roadways shall be cleaned of sediment and stones. The roadway shall be cleaned immediately of any sediment and stone deposited from a construction vehicle.
2. **Silt Fencing:** Sediment control fencing shall be installed along the property lines and road frontages where indicated. Temporary soil stockpiles shall also contain silt fence surround.
3. **Surface Stabilization:** All disturbed soils shall be stabilized as soon as grade is established, either in fill or cut areas, with either vegetation and mulch or geotextile fabric and stone subbase in paved parking lot footprint.
4. **Dust Control:** Dust shall be controlled by sprinkling during extended periods of soil exposure. See item #1 above for optional temporary water sources.
5. **Excavated Storm Drain Inlet Protection:** Installation of receivers shall leave the rim above the surrounding grades to allow for pooling and settlement of sediment prior to runoff entering the storm sewer piping. A geotextile fabric shall also be installed under the grate of each receiver which shall be regularly cleaned of any built-up sediment.

Stormwater Operational Maintenance Schedule

1. **Construction Entrance/Exit:** The public roadways shall be cleaned immediately of any sediment and stone deposited from a construction vehicle.
2. **Silt Fencing:** Sediment control fencing shall be inspected daily with removal of built-up sediments at 6-inches depth of accumulation. Repairs to fencing shall be made as necessary.
3. **Surface Stabilization:** All seeded areas shall be fertilized and re-seeded and mulched as necessary to maintain vigorous, dense cover.
4. **Dust Control:** As necessary.
5. **Excavated Storm Drain Inlet Protection:** Excavated inlet protection shall be inspected daily with removal of built-up sediments at 50% depth of accumulation of the storage capacity. Block & stone-type: gravel shall be cleaned or replaced when sediment pool no longer drains.
6. **Stormwater Inlet sumps and Water Quality Treatment Device:** Sediments shall be removed from sumps when level reaches the inlet pipe invert (+/- 12" depth). Clean storm piping as necessary. Sediments shall be removed from the Water Quality Treatment vault a minimum of once prior to project closeout and when the maximum recommended depth of sediments is reached. Reference vault supplier's maintenance instructions for methods, including replacement interval for media filters.

APPENDIX A

Soil Map—Erie County, New York
(301-399 Ohio Street Buffalo NY)

Map Scale: 1:12,000 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

SEQRA Notice of Determination

Non Significance

Negative Declaration

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (SEQR – State Environmental Quality Review) of the Environmental Conservation Law.

Lead Agency: City of Buffalo, Planning Board
901 City Hall
65 Niagara Square
Buffalo, NY 14202

As per the provision of SEQR, the Lead Agency has reviewed the following action as it relates to the environment:

Action Title: 399 Ohio Street – New Construction

Location: 399 Ohio Street, Buffalo, NY

Type of Action: Type 1, Coordinated Review

Description: The Action involves the construction of a 5-story, 50,262 SF mixed use building on Ohio Street near Chicago Street. This project is located within the West Erie Canal Corridor and the E&B Holmes Machinery Company Building, which is listed on the State and National Registers of Historic Places. This project will include restaurants on the first floor, office space on the second floor and 21 apartment units on the third and fourth floors. A total of 191 car parks will be added along with 27% greenspace.

As a Result of this Environmental Review: The Lead Agency has determined the undertaking of this action will not have a significant adverse effect on the quality of the environment. No further environmental review will be conducted prior to implementation of the action and a Draft Environmental Impact Statement will not be prepared.

Reasons Supporting This Determination: Potential environmental impacts associated with the action were identified in the Environmental Assessment Form to assess potential adverse environmental impacts compared to the criteria for determining significance identified in 6 NYCRR §617.7(c)(1) and in accordance with §617.7 (c)(2)(3).

The potential impacts are not significant. The construction of a mixed use building will not impose significant impacts on the surrounding environment.

The project will not have a significant impact on air quality. This action involves the addition of heating and cooling units, however this does not constitute as a significant impact and will not require an air permit.

The project will have minimal adverse impacts on ground or surface water quality or quantity. The project demands approximately 12,000 gallons of water per day. However, this project ties in to the existing city sewer lines and does not require an extension of the city sewer system.

The project will not have a substantial adverse change in existing traffic levels. The project will provide 191 on-site parking. This action will not result in a substantial increase in current traffic levels or generate additional demand for new transportation services. The project is located near and serviced by public bus routes around the site.

The project will not have a substantial adverse change in noise levels. During construction, this project will create noise, however, the property is located in an urban area; therefore, this project will not contribute significantly to an increase in noise levels.

The project will not result in the removal or destruction of large quantities of vegetation or fauna; substantially interfere with the movement of any resident or migratory fish or wildlife species; impact on a significant habitat area; impact a

threatened or endangered species of animal or plant, or the habitat of such a species; or other significant adverse impacts to natural resources.

The project is located in an urban area and is not within or adjacent to a Critical Environmental Area and will therefore, not impair the environmental characteristics of a Critical Environmental Area. This project is located adjacent to the Buffalo River and Lake Erie Watershed, however there will be no resulting significant impact.

The project will not have a major change in the quantity or type of energy used. There will be additional demand from this project, however, sources of electricity for this project will be from local utility services, therefore will not create significant impact to the surrounding environment.

The project will not create a hazard to human health. This project is located within 2,000 feet of a NYSDEC Environmental Remediation site under ID numbers, C915285 and C915257. While both of these sites are active and in need of remediation, cleanup is underway and will not produce a significant impact to the project itself.

The project will not create a substantial change in the use, or intensity of use, of land including agricultural, open space or recreational resources, or in its capacity to support existing uses.

The project will not encourage or attract a large number of people to a place or places for more than a few days, compared to the number of people who would come to such place absent the action.

The project will not create a material demand for other actions that would result in one of the above consequences.

The project will not involve changes in two or more elements of the environment, neither of which has a significant adverse impact on the environment, but when considered together result in a substantial adverse impact on the environment.

The project does not include two or more related actions undertaken, funded or approved by an agency, none of which has or would have a significant impact on the environment, but when considered cumulatively would meet one or more of the criteria in 6 NYCCR 617.7(C)(1).

The site is archeologically sensitive however, based on prior soil disturbance, including site remdiation, it is unlikely archeological resources would be encountered.

For further information relative to this Negative Declaration, contact Ms. Nadine Marrero, Director of Planning, Room 901 City Hall, Buffalo, New York 14202, (716)851-5029.

Dated: May 5, 2015

CC: City of Buffalo, Department of Public Works, Parks and Streets
Thomas Fox (Applicant)
Erie County Industrial Development Agency
City of Buffalo Common Council
New York State Department of Environmental Conservation
Buffalo Water Board
Buffalo Sewer Authority

NEW YORK
STATE OF
OPPORTUNITY.

Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

August 07, 2015

Mr. Andrew Marino
Project Manager
Tredo Engineers
755 Seneca Street
Suite 202
Buffalo, NY 14210

Re: DEC
Proposed Mixed-Use Facility at 399 Ohio St
City of Buffalo, Erie County, NY
15PR03681
GP-0-15-002

Dear Mr. Marino:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the project in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the OPRHP and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8) and its implementing regulations (6 NYCRR Part 617).

Based upon this review, it is the New York State Office of Parks, Recreation and Historic Preservation's opinion that your project will have no impact on archaeological and/or historic resources listed in or eligible for the New York State and National Registers of Historic Places.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont

Ruth L. Pierpont

Deputy Commissioner for Historic Preservation

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

Resource Evaluation

Date: 07/09/2015

Staff: Kathy Howe

USN Number: 02940.026824

Name: Buffalo Scholastic Rowing Association

Location: 399 Ohio Street, Buffalo NY 14203

Resource Status:

1. **Determination:** Not Eligible
2. **Contributing:** False

Criteria for Inclusion in the National Register:

A. ☐ Associated with events that have made a significant contribution to the broad patterns in our history.

B. ☐ Associated with the lives of persons significant in our past.

C. ☐ Embodies the distinctive characteristics of a type, period or method of construction; or represents the work of a master; or posses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction.

D. ☐ Have yielded, or may be likely to yield information important in prehistory or history.

Summary Statement:

Vacant lot.

Soil Map—Erie County, New York
(301-399 Ohio Street Buffalo NY)

Map Scale: 1:713 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 10 20 40 60

Feet: 0 30 60 120 180

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Erie County, New York
Survey Area Data: Version 13, Sep 15, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Erie County, New York (NY029)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ud	Urban land	1.5	100.0%
Totals for Area of Interest		**1.5**	**100.0%**

APPENDIX B

Project:	301-399 OHIO ST MULTI-USE	Project #:	15 07	Sheet #:		of	
Description:	Water Quality Calcs	Date:	June 2015	Drawn by:	avrn		

Water Quality Volume (WQv) Calculations:

Base Data

Location:	City of Buffalo, NY				
Site Area	1.30	acres			
Offsite Area	0.00	acres			
Total Drainage Area (DA) =	1.30	acres			use of NYSDEC SWDM Redevelopment Chpt 9
Measure Impervious Area =	1.00	acres			provided 23% reduction of impervious surface
Site Soil Types (HSG)	A	B	C	D	
Percentage	0%	0%	0%	100%	
Soil Description	-	-	-	Ud	

Computation of Preliminary Stormwater Storage Volumes and Peak Discharges

Water Quality Volume, WQ$_v$

Compute Impervious Cover
Use both on-site and off-site drainage:

I = 76.9

Compute Runoff Coefficient, R$_v$

R$_v$ = 0.74

Compute WQv (Includesboth on-site and off-site drainage)
Use the 90% capture rule with 1.0 inches of rainfall (Ref NYS SWMDM Figure 4.1)

WQ$_v$ = 0.080 ac-ft **Total prior to RRv** 3503 cf

Compute Water Quality Peak Flow

P =	1.0	inches		
Q =	0.74	inches		
CN =	97	per NYSDEC App B		
Ia/P =	0.11			
tc =	6	min	0.1	hrs
C0 =	2.553			
C1 =	-0.615			
C2 =	-0.164			
K =	3.004			

therefore qu = 1010 cfs/sq mi/inch

Qp = qu x A x WQv

A =	0.00203	sq miles	
WQv =	0.74	watershed inches	
therefore **Qp =**	**1.52**	cfs	**Total prior to RRv**

Runoff Reduction Volume (RRv): N/A

Minimum RRv (in ac-ft of storage) = ((P)(Rv*)(Ai) / 12)

where P =	1.00	inches	
Ai = (S)(Aic) =	0.20	acres	
Rv =	0.95	(where I is 100% impervious)	
Average S =	0.20	Specified Minimum Reduction Factor if WQv > RRv	
Aic =	1.00	acres	
therefore **RRv Min.=**	0.016	ac-ft	19.7 % reduction

Ai = (S)(Aic)
Ai = Impervious cover targeted for runoff reduction
(Aic) = Total area of new impervious cover
Rv* = 0.05+0.009(I) = 0.95, where I is 100% impervious
S = Hydrologic Soil Group (HSG) Specific Reduction Factor =

HSG A =	0.55	0%
HSG B =	0.40	0%
HSG C =	0.30	0%
HSG D =	0.20	100%

Flow-thru alternate SMP Sizing: shall be based on peak 75% WQv flow of 1.14 cfs
see pipe sizing chart in Appendix A for 10-yr storm event inflow to alternate SMP without diversion

HLR Calculator

Note:

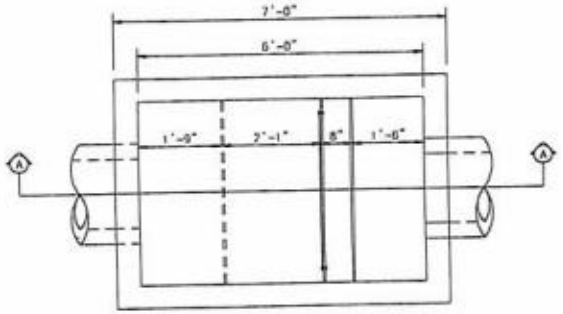
Use this calculation for each basin.
If the BMP has more than one vault, calculate the footprint of each vault.
The calculator will sum the areas for you.
Vaullts may be parallel or in series if they are part of one BMP
If you have separate BMPs or a separate basin, do not sum HLR
Use either the Length x Width or a Diameter for each vault, not both
In the example provided, a 6' x 4' vault is used for a Water Quality (WQ) flow of 1 cfs

	Inputs (Enter your data here)
	Outputs (Do not enter here)

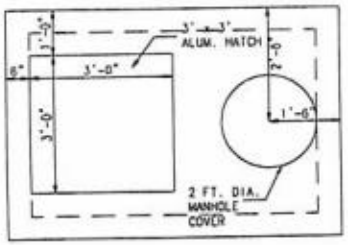
	(cfs)	gpm
Basin WQ Flow	1.5	673.25

		Length or Diameter	Width	Footprint (Sq. Ft.)	
Vault 1					
	Rectangular	6	4	24	
- or -	Circular	6		28.27	56.54867
Vault 2					
	Rectangular	0	0	0	
- or -	Circular	0		0.00	
Vault 3					
	Rectangular	0	0	0	
- or -	Circular	0		0.00	
		Total Footprint (Sq. Ft.)		52.27	
		HLR (Flow / Area)		**12.88**	**gpm/sf**

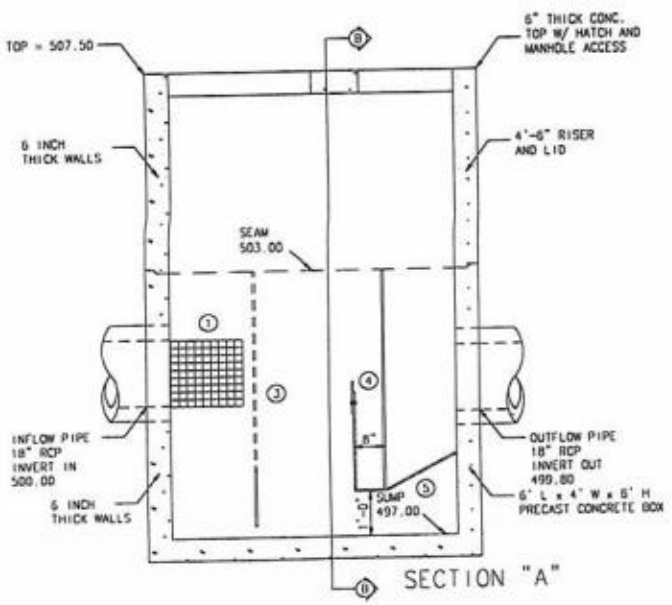
Manufactured by: Practical Best Management – 1-800-748-6945 www.crystalstream.com



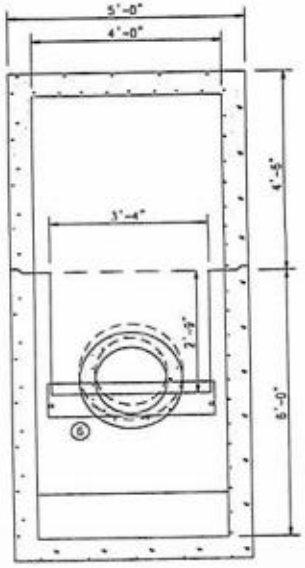
TOP VIEW (INTERNAL)



TOP VIEW (SLAB)



SECTION "A"



SECTION B

LEGEND

1. EXPANDED ALUMINUM BASKET W/ 1/4" MESH LINING, 1'-6" H x 1'-0" L x 4'-0" W
3. 2ND INTERNAL BAFFLE W/ 1" HOLES DRILLED AT 1 1/4" O.C., 6'-0" H.
4. SPILL PROTECTIN RESERVOIR 5'-0" H. WITH A 2'-9" FRONT CUT.
5. 3/4"COCONUT FIBER FILTER IN ALUMINUM FRAME 1'-8" LONG.
6. 1/4"ALUMINUM PLATE, 9" H., 3'-6" WIDE.

CRYSTALSTREAM WATER QUALITY VAULT MODEL "646"

JURISDICTION: CITY, STATE

Protected by U.S. Patent No's: 6,797,161; 6,935,163; 6,939,461; 6,951,607; 6,994,783; 7,011,743, 7,037,435

Sample 646 navlornal 7/17/2007 p.o.d.s.

JOB NAME:

SAMPLE 646

Device No.: CST-1

CST PROJECT NUMBER

DESIGN FIRM: Engineer's Name

SPECIFICATIONS

1. TOTAL FLOW CAPACITY SHALL BE 6.00 CFS.
2. WATER QUALITY FLOW OF 1.4 CFS MUST BE TREATED BEFORE BYPASS.
3. SPILL PROTECTION CAPACITY SHALL BE 575 GALLONS BEFORE OVERFLOW.
4. ANY CHANGES OR SUBSTITUTIONS MUST BE APPROVED BY THE ENGINEER AND THE REVIEWING AUTHORITY.

CrystalStream Technologies

301-399 OHIO ST MIXED-USE FACILITY
BUFFALO, NY

STORM SEWER COMPUTATIONS (10 yr)

RUNOFF AND FLOW																
SEWER LOCATION			TRIBUTARY AREA (acres)		RUNOFF COEFFICIANT C								TIME OF CONC. T_c (min)	INTENSITY I (in/hr)	FLOW Q (cfs)
area	from	to	A	SUM A	c	cA	SUM cA	LENGTH	SLOPE	PREV. Tc	T. of conc. c	RUNOFF Tc				
1	CB-1	STMH	0.37	0.37	0.92	0.34	0.34	120.00	1.50		0.92	3.10	3.10	10.00	4.6	1.57
2	RD	STMH	0.26	0.26	0.92	0.24	0.24	90.00	2.00		0.92	2.44	2.44	10.00	4.6	1.10
3	CB-2	STMH	0.29	0.29	0.92	0.27	0.27	60.00	1.50		0.92	2.19	2.19	10.00	4.6	1.23
4	STMH	WQ VAULT	0.00	0.92	0.92	0.00	0.85	0.00	1.00	10.33	0.92	0.00	10.33	10.33	4.5	3.85
			0.92													

DESIGN								
MANNING n	SLOPE S (%)	DIAMETER D (in)	CAPACITY Q (cfs)	CAPACITY VELOCITY V (ft/sec)	% capacity	peak factor	FLOW VELOCITY V (ft/sec)	LENGTH L (ft)
0.012	0.50	10	1.68	3.09	0.93	1.15	3.55	175
0.012	1.00	8	1.31	3.76	0.84	1.13	4.25	50
0.012	0.50	10	1.68	3.09	0.73	1.08	3.33	5
0.012	0.50	15	4.96	4.04	0.78	1.10	4.45	15

APPENDIX C

JOINT APPLICATION FORM

For Permits/Determinations to undertake activities affecting streams, waterways, waterbodies, wetlands, coastal areas and sources of water withdrawal.

New York State

You must separately apply for and obtain separate Permits/Determinations from each involved agency prior to proceeding with work. Please read all instructions.

US Army Corps of Engineers (USACE)

APPLICATIONS TO

1. NYS Department of Environmental Conservation

Check all permits that apply:

- ☐ Stream Disturbance
- ☐ Excavation and Fill in Navigable Waters
- ☐ Docks, Moorings or Platforms
- ☐ Dams and Impoundment Structures
- ☐ 401 Water Quality Certification
- ☐ Freshwater Wetlands
- ☐ Tidal Wetlands
- ☐ Coastal Erosion Management
- ☐ Wild, Scenic and Recreational Rivers
- ☐ Water Withdrawal
- ☐ Long Island Well
- ☐ Aquatic Vegetation Control
- ☐ Aquatic Insect Control
- ☐ Fish Control
- ☐ Incidental Take of Endangered/Threatened Species

☐ I am sending this application to this agency.

2. US Army Corps of Engineers

Check all permits that apply:

- ☐ Section 404 Clean Water Act
- ☐ Section 10 Rivers and Harbors Act
- ☑ Nationwide Permit(s) - Identify Number(s): 12

Preconstruction Notification - ☐ Y / ☑ N

☑ I am sending this application to this agency.

3. NYS Office of General Services

Check all permits that apply:

- ☐ State Owned Lands Under Water
  - ☐ Utility Easement (pipelines, conduits, cables, etc.)
  - ☐ Docks, Moorings or Platforms

☐ I am sending this application to this agency.

4. NYS Department of State

Check if this applies:

- ☐ Coastal Consistency Concurrence

☐ I am sending this application to this agency.

5. Name of Applicant (use full name)
1093 Group, LLC
William A. Paladino

Mailing Address
295 Main St., Suite 210

Post Office City
Buffalo

State NY Zip Code 14203

Telephone (daytime)
(716) 854-0060

Email
bpaladino@ellicottdevelopment.com

Applicant must be:

- ☑ Owner
- ☐ Operator
- ☐ Lessee

(check all that apply)

Taxpayer ID (If applicant is NOT an individual):

6. Name of Facility or Property Owner (if different than Applicant)

Mailing Address

Post Office City

State Zip Code

Telephone (daytime)

Email

7. Contact/Agent Name
Andrew Marino

Company Name
Tredo Engineers

Mailing Address 755 Seneca Street

Post Office City Buffalo

State NY Zip Code 14210

Telephone (daytime)
7168767147

Email
amarino@tredoengineers.com

8. Project / Facility Name
Mixed-Use Facility

Property Tax Map Section / Block / Lot Number

Project Location - Provide directions and distances to roads, bridges and bodies of waters:
301-399 Ohio Street; the Buffalo River runs along the west property line; new facility located just north of Chicago Street

Street Address, if applicable
301-399 Ohio Street

Post Office City Buffalo State NY Zip Code 14203

Town / Village / City
Buffalo

County
Erie

Name of USGS Quadrangle Map

Stream/Water Body Name
Buffalo River

Location Coordinates: Enter NYTMs in kilometers, OR Latitude/Longitude

NYTM-E	NYTM-N	Latitude	Longitude
183894	4753569		

For Agency Use Only DEC Application Number: USACE Number:

JOINT APPLICATION FORM - PAGE 2 OF 2

Submit this completed page as part of your Application.

9. **Project Description and Purpose:** Provide a complete narrative description of the proposed work and its purpose. Attach additional page(s) if necessary. Include: description of current site conditions and how the site will be modified by the proposed project; structures and fill materials to be installed; type and quantity of materials to be used (i.e., square ft of coverage and cubic yds of fill material and/or structures below ordinary/mean high water) area of excavation or dredging, volumes of material to be removed and location of dredged material disposal or use; work methods and type of equipment to be used; pollution control methods and mitigation activities proposed to compensate for resource impacts; and where applicable, the phasing of activities. **ATTACH PLANS ON SEPARATE PAGES.**

New 5-story mixed-use facility on a developed parcel. Discharge of post-developed runoff to the Buffalo River (on-site) after water quality treatment achieved. Core-drill seawall for pipe installation and pack with non-shrink grout. No bed or bank disturbance and no wetlands (entire parcel is currently pavements and building, historically.)

Proposed Use: ☐ Private ☐ Public ☑ Commercial	Proposed Start Date: 8/1/2015	Estimated Completion Date: 8/31/2015
Has Work Begun on Project? ☐ Yes ☑ No If Yes, explain.		
Will Project Occupy Federal, State or Municipal Land? ☐ Yes ☑ No If Yes, please specify.		

10. List Previous Permit / Application Numbers (if any) and Dates:

11. Will this project require additional Federal, State, or Local Permits including zoning changes? ☑ Yes ☐ No If yes, please list:
NYSDEC SPDES Permit GP-0-15-002; City of Buffalo building permit

12. **Signatures.** If applicant is not the owner, both must sign the application.
I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willingly falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

Signature of Applicant	Printed Name	Title	Date
	WILLIAM A. PALADINO	CEO	7/15/15
Signature of Owner	Printed Name	Title	Date
	Andrew V. Marino	Projec Manager	7/10/15
Signature of Agent	Printed Name	Title	Date

For Agency Use Only **DETERMINATION OF NO PERMIT REQUIRED**

_____ (Agency Name) Agency Project Number _____ has determined that No Permit is required from this Agency for the project described in this application.

Agency Representative: Name (printed) _____ Title _____

Signature _____ Date _____

RESET

0644089821

NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR [ ] [for DEC use only]

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-15-002

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANT-

RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)
1013 GROUP, LLC

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
PALADINO

Owner/Operator Contact Person First Name
WILLIAM

Owner/Operator Mailing Address
295 MAIN ST. SUITE 210

City
BUFFALO

State: NY Zip: 14203-

Phone (Owner/Operator): 716-854-0060 Fax (Owner/Operator): 716-852-2929

Email (Owner/Operator)
bpaladinoellicottdevelopment.com

FED TAX ID
05-0615732 (not required for individuals)

6401089828

Project Site Information

Project/Site Name
MIXED USE FACILITY

Street Address (NOT P.O. BOX)
301 OHIO STREET

Side of Street
○ North ○ South ○ East ● West

City/Town/Village (THAT ISSUES BUILDING PERMIT)
BUFFALO

State Zip
NY 14203 -

County
ERIE

DEC Region
9

Name of Nearest Cross Street
CHICAGO STREET

Distance to Nearest Cross Street (Feet)
100

Project in Relation to Cross Street
● North ○ South ○ East ○ West

Tax Map Numbers
Section-Block-Parcel

Tax Map Numbers

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you **must** go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.ny.gov/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)
183894

Y Coordinates (Northing)
4753569

2. What is the nature of this construction project?

○ New Construction

○ Redevelopment with increase in impervious area

● Redevelopment with no increase in impervious area

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use

- ○ FOREST
- ○ PASTURE/OPEN LAND
- ○ CULTIVATED LAND
- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ○ COMMERCIAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY
- ● PARKING LOT
- ○ OTHER

Post-Development Future Land Use

- ○ SINGLE FAMILY HOME — Number of Lots
- ○ SINGLE FAMILY SUBDIVISION
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ○ COMMERCIAL
- ○ MUNICIPAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY (water, sewer, gas, etc.)
- ○ PARKING LOT
- ○ CLEARING/GRADING ONLY
- ○ DEMOLITION, NO REDEVELOPMENT
- ○ WELL DRILLING ACTIVITY *(Oil, Gas, etc.)
- ● OTHER: MIXED-USE

***Note:** for gas well drilling, non-high volume hydraulic fractured wells only

4. In accordance with the larger common plan of development or sale, enter the total project site area; the total area to be disturbed; existing impervious area to be disturbed (for redevelopment activities); and the future impervious area constructed within the disturbed area. (Round to the nearest tenth of an acre.)

Total Site Area	Total Area To Be Disturbed	Existing Impervious Area To Be Disturbed	Future Impervious Area Within Disturbed Area
6.8	1.3	1.3	1.0

5. Do you plan to disturb more than 5 acres of soil at any one time? ○ Yes ● No

6. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	B	C	D
%	%	%	100 %

7. Is this a phased project? ○ Yes ● No

8. Enter the planned start and end dates of the disturbance activities.

Start Date 08/31/2015 – End Date 05/30/2016

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9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.

Name

BUFFALO RIVER

9a. Type of waterbody identified in Question 9:

- ○ Wetland / State Jurisdiction On Site (Answer 9b)
- ○ Wetland / State Jurisdiction Off Site
- ○ Wetland / Federal Jurisdiction On Site (Answer 9b)
- ○ Wetland / Federal Jurisdiction Off Site
- ● Stream / Creek On Site
- ○ Stream / Creek Off Site
- ○ River On Site
- ○ River Off Site
- ○ Lake On Site
- ○ Lake Off Site
- ○ Other Type On Site
- ○ Other Type Off Site

9b. How was the wetland identified?

- ○ Regulatory Map
- ○ Delineated by Consultant
- ○ Delineated by Army Corps of Engineers
- ○ Other (identify)

10. Has the surface waterbody(ies) in question 9 been identified as a 303(d) segment in Appendix E of GP-0-15-002? ○ Yes ● No

11. Is this project located in one of the watersheds identified in Appendix C of GP-0-15-002? ○ Yes ● No

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters? ○ Yes ● No
If no, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey? ○ Yes ● No
If Yes, what is the acreage to be disturbed?

14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area? ○ Yes ● No

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? ○ Yes ● No ○ Unknown

16. What is the name of the municipality/entity that owns the separate storm sewer system?

BUFFALO SEWER AUTHORITY

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ Yes ● No ○ Unknown

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law? ○ Yes ● No

19. Is this property owned by a state authority, state agency, federal government or local government? ○ Yes ● No

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) ○ Yes ● No

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)? ● Yes ○ No

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)? ● Yes ○ No
If No, skip questions 23 and 27-39.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual? ● Yes ○ No

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24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- (●) Professional Engineer (P.E.)
- ( ) Soil and Water Conservation District (SWCD)
- ( ) Registered Landscape Architect (R.L.A)
- ( ) Certified Professional in Erosion and Sediment Control (CPESC)
- ( ) Owner/Operator
- ( ) Other

SWPPP Preparer
TREDO ENGINEERS

Contact Name (Last, Space, First)
MARINO ANDREW

Mailing Address
755 SENECA STREET

City
BUFFALO

State Zip
NY 14210-

Phone
716-876-7147

Fax
- -

Email
amarino@tredoengineers.com

SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-15-002. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name
EDWARD

MI
F

Last Name
TREDO

Signature
Edward Tredo

Date
08/05/2015

25. Has a construction sequence schedule for the planned management practices been prepared? ● Yes ○ No

26. Select **all** of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural

- ○ Check Dams
- ○ Construction Road Stabilization
- ● Dust Control
- ○ Earth Dike
- ○ Level Spreader
- ○ Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ○ Rock Dam
- ○ Sediment Basin
- ○ Sediment Traps
- ● Silt Fence
- ○ Stabilized Construction Entrance
- ● Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ○ Temporary Access Waterway Crossing
- ○ Temporary Stormdrain Diversion
- ○ Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ○ Grassed Waterway
- ● Mulching
- ○ Protecting Vegetation
- ○ Recreation Area Improvement
- ● Seeding
- ○ Sodding
- ○ Straw/Hay Bale Dike
- ○ Streambank Protection
- ○ Temporary Swale
- ● Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ○ Land Grading
- ○ Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ○ Retaining Wall
- ○ Riprap Slope Protection
- ○ Rock Outlet Protection
- ○ Streambank Protection

Other

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Post-construction Stormwater Management Practice (SMP) Requirements

Important: Completion of Questions 27-39 is not required if response to Question 22 is No.

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

- ○ Preservation of Undisturbed Areas
- ○ Preservation of Buffers
- ○ Reduction of Clearing and Grading
- ● Locating Development in Less Sensitive Areas
- ○ Roadway Reduction
- ○ Sidewalk Reduction
- ○ Driveway Reduction
- ○ Cul-de-sac Reduction
- ● Building Footprint Reduction
- ○ Parking Reduction

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- ● All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).
- ○ Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

Total WQv Required

		0	.	0	8	0

acre-feet

29. Identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required(#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

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Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

	Total Contributing Area (acres)		Total Contributing Impervious Area (acres)
RR Techniques (Area Reduction)			
○ Conservation of Natural Areas (RR-1)	___.___	and/or	___.___
○ Sheetflow to Riparian Buffers/Filters Strips (RR-2)	___.___	and/or	___.___
○ Tree Planting/Tree Pit (RR-3)	___.___	and/or	___.___
○ Disconnection of Rooftop Runoff (RR-4)	___.___	and/or	___.___
RR Techniques (Volume Reduction)			
○ Vegetated Swale (RR-5)			___.___
○ Rain Garden (RR-6)			___.___
○ Stormwater Planter (RR-7)			___.___
○ Rain Barrel/Cistern (RR-8)			___.___
○ Porous Pavement (RR-9)			___.___
○ Green Roof (RR-10)			___.___
Standard SMPs with RRv Capacity			
○ Infiltration Trench (I-1)			___.___
○ Infiltration Basin (I-2)			___.___
○ Dry Well (I-3)			___.___
○ Underground Infiltration System (I-4)			___.___
○ Bioretention (F-5)			___.___
○ Dry Swale (O-1)			___.___
Standard SMPs			
○ Micropool Extended Detention (P-1)			___.___
○ Wet Pond (P-2)			___.___
○ Wet Extended Detention (P-3)			___.___
○ Multiple Pond System (P-4)			___.___
○ Pocket Pond (P-5)			___.___
○ Surface Sand Filter (F-1)			___.___
○ Underground Sand Filter (F-2)			___.___
○ Perimeter Sand Filter (F-3)			___.___
○ Organic Filter (F-4)			___.___
○ Shallow Wetland (W-1)			___.___
○ Extended Detention Wetland (W-2)			___.___
○ Pond/Wetland System (W-3)			___.___
○ Pocket Wetland (W-4)			___.___
○ Wet Swale (O-2)			___.___

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Table 2 - Alternative SMPs
(DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Alternative SMP	Total Contributing Impervious Area (acres)
○ Hydrodynamic	
○ Wet Vault	
● Media Filter	0.83
○ Other	

Provide the name and manufacturer of the Alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Name: SINGLE VAULT 646

Manufacturer: CRYSTALSTREAM

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29.

Total RRv provided

0.00 **acre-feet**

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28).

○ **Yes** ● **No**

If Yes, go to question 36.
If No, go to question 32

32. Provide the Minimum RRv required based on HSG.
[Minimum RRv Required = (P)(0.95)(Ai)/12, Ai=(S)(Aic)]

Minimum RRv Required

0.00 **acre-feet**

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?

● **Yes** ○ **No**

If Yes, go to question 33.
Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv(=Total WQv Required in 28 - Total RRv Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

Note: Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv capacity identified in question 29.

WQv Provided

0.080 **acre-feet**

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - RRv provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a). 0.080

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? ● **Yes** ○ **No**

If Yes, go to question 36.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv) required and provided or select waiver (36a), if applicable.

CPv Required . **acre-feet**

CPv Provided . **acre-feet**

36a. The need to provide channel protection has been waived because:

● Site discharges directly to tidal waters or a fifth order or larger stream.

○ Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (37a), if applicable.

Total Overbank Flood Control Criteria (Qp)

Pre-Development . **CFS**

Post-development . **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development . **CFS**

Post-development . **CFS**

37a. The need to meet the Qp and Qf criteria has been waived because:

- ● Site discharges directly to tidal waters or a fifth order or larger stream.
- ○ Downstream analysis reveals that the Qp and Qf controls are not required

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed? ● Yes ○ No

If Yes, Identify the entity responsible for the long term Operation and Maintenance

OWNER/OPERATOR

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required(#28). (See question 32a) This space can also be used for other pertinent project information.

Reduced impervious by 26% in redeveloped area. Use of flow-thru media filter treats 100% WQv in redeveloped area (>75% required) at 1.5 cfs peak WQ flow.

40. Identify other DEC permits, existing and new, that are required for this project/facility.

- ○ Air Pollution Control
- ○ Coastal Erosion
- ○ Hazardous Waste
- ○ Long Island Wells
- ○ Mined Land Reclamation
- ○ Solid Waste
- ○ Navigable Waters Protection / Article 15
- ○ Water Quality Certificate
- ○ Dam Safety
- ○ Water Supply
- ○ Freshwater Wetlands/Article 24
- ○ Tidal Wetlands
- ○ Wild, Scenic and Recreational Rivers
- ○ Stream Bed or Bank Protection / Article 15
- ○ Endangered or Threatened Species(Incidental Take Permit)
- ○ Individual SPDES
- ○ SPDES Multi-Sector GP [N][Y][R][ ][ ][ ][ ][ ]
- ○ Other [ ]
- ● None

41. Does this project require a US Army Corps of Engineers Wetland Permit? ○ Yes ● No
If Yes, Indicate Size of Impact. [ ][ ][ ][ ][ ][ ].[ ]

42. Is this project subject to the requirements of a regulated, traditional land use control MS4? ● Yes ○ No
(If No, skip question 43)

43. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI? ● Yes ○ No

44. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned. [N][Y][R][ ][ ][ ][ ][ ][ ]

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Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name: WILLIAM

MI: A

Print Last Name: PALADINO

Owner/Operator Signature: William Paladino

Date: 07/23/2015

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NYS Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit
*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information	
1. Owner/Operator Name:	1093 GROUP, LLC
2. Contact Person:	WILLIAM PALADINO
3. Street Address:	295 MAIN ST. SUITE 210
4. City/State/Zip:	BUFFALO/NY/14203
II. Project Site Information	
5. Project/Site Name:	MIXED USE FACILITY
6. Street Address:	301 OHIO ST.
7. City/State/Zip:	BUFFALO/NY/14203
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information	
8. SWPPP Reviewed by:	REGINA L. HARRIS
9. Title/Position:	JUNIOR SANITARY ENGINEER
10. Date Final SWPPP Reviewed and Accepted:	9/17/15
IV. Regulated MS4 Information	
11. Name of MS4:	BUFFALO SEWER AUTHORITY
12. MS4 SPDES Permit Identification Number: NYR20A	461
13. Contact Person:	ROSALEEN B. NOGLE, P.E.
14. Street Address:	65 NIAGARA SQ., CITY HALL 1038
15. City/State/Zip:	BUFFALO, NY 14202
16. Telephone Number:	(716) 851-4664 ext 4219

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name: ROSALEEN B. NOGLE, P.E.

Title/Position: ACTING PRINCIPAL SANITARY ENGINEER

Signature:

Date: 9/17/15

VI. Additional Information

(NYS DEC - MS4 SWPPP Acceptance Form - January 2015)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water, Bureau of Permits
625 Broadway, Albany, New York 12233-3505
P: (518) 402-8111 | F: (518) 402-9029
www.dec.ny.gov

10/26/2015

1073 GROUP LLC
WILLIAM PALADINO
295 MAIN ST., SUITE 210
BUFFALO, NY 14203-

Re: ACKNOWLEDGMENT of NOTICE of INTENT for Coverage Under SPDES General Permit for Storm Water Discharges from CONSTRUCTION ACTIVITY General Permit No. GP-0-15-002

Dear Prospective Permittee:

This is to acknowledge that the New York State Department of Environmental Conservation (Department) has received a complete Notice of Intent (NOI) for coverage under General Permit No. GP-0-15-002 for the construction activities located at:

MIXED USE FACILITY
301 OHIO STREET
BUFFALO, NY 14203- County: **ERIE**

Pursuant to Environmental Conservation Law (ECL) Article 17, Titles 7 and 8, ECL Article 70, discharges in accordance with GP-0-15-002 from the above construction site will be authorized **10** business days from **10/20/2015**, which is the date we received your final NOI, unless notified differently by the Department.

The permit identification number for this site is: **NYR11A045**. Be sure to include this permit identification number on any forms or correspondence you send us. When coverage under the permit is no longer needed, you must submit a Notice of Termination to the Department.

This authorization is conditioned upon the following:

1. The information submitted in the NOI received by the Department on **10/20/2015** is accurate and complete.

2. You have developed a Stormwater Pollution Prevention Plan (SWPPP) that complies with GP-0-15-002 which must be implemented as the first element of construction at the above-noted construction site.

3. Activities related to the above construction site comply with all other requirements of GP-0-15-002.

APPENDIX D

CONR 8
(10/10)

SPDES STORMWATER POLLUTION PREVENTION PLAN (SWPPP) REVISION

JOB STAMP

Date: _____

Day of Week: S M T W T F S

Sheet No. ___ of ___

This form is to be used when revisions to the current Stormwater Pollution Prevention Plan (SWPPP) are required by SPDES General Permit for Construction Activity, GP-0-15-002. The completed form must be filed in the Engineer's Field Office.

Reason for the Revision(s): Revision(s) were requested by NYSDEC: ☐ Yes ☐ No

_____

_____

_____

_____

_____

_____

_____

Describe the Revision(s) to the SWPPP:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Engineer-in-Charge Signature: _____

EICs Name & Title: _____

Date Completed: _____

Copy to Contractor: _____

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505
(NOTE: Submit completed form to address above)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity

Please indicate your permit identification number: NYR ___ ___ ___ ___ ___ ___

I. Owner or Operator Information

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person: | 4a.Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

III. Reason for Termination

9a. □ All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. ***Date final stabilization completed** (month/year): _____

9b. □ Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR ___ ___ ___ ___ ___ ___
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. □ Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? □ yes □ no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? □ yes □ no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

_____

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? ☐ yes ☐ no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

☐ Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.

☐ Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).

☐ For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.

☐ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____ (acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? ☐ yes ☐ no

(If Yes, complete section VI - "MS4 Acceptance" statement

V. Additional Information/Explanation:

(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:

Title/Position:

Signature:	Date:

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

(NYS DEC Notice of Termination - January 2015)

SAMPLE STORMWATER CONTROL FACILITY MAINTENANCE AGREEMENT

Whereas, the Town of ("Town") and the _____ ("facility owner") want to enter into an agreement to provide for the long term maintenance and continuation of stormwater control measures approved by the Municipality for the below named project, and

Whereas, the Municipality and the facility owner desire that the stormwater control measures be built in accordance with the approved project plans and thereafter be maintained, cleaned, repaired, replaced and continued in perpetuity in order to ensure optimum performance of the components. Therefore, the Municipality and the facility owner agree as follows:

1. This agreement binds the Municipality and the facility owner, its successors and assigns, to the maintenance provisions depicted in the approved project plans which are attached as Schedule A of this agreement.

2. The facility owner shall maintain, clean, repair, replace and continue the stormwater control measures depicted in Schedule A as necessary to ensure optimum performance of the measures to design specifications. The stormwater control measures shall include, but shall not be limited to, the following: drainage ditches, swales, dry wells, infiltrators, drop inlets, pipes, culverts, soil absorption devices and retention ponds.

3. The facility owner shall be responsible for all expenses related to the maintenance of the stormwater control measures and shall establish a means for the collection and distribution of expenses among parties for any commonly owned facilities.

4. The facility owner shall provide for the periodic inspection of the stormwater control measures, not less than once in every five-year period, to determine the condition and integrity of the measures. Such inspection shall be performed by a Professional Engineer licensed by the State of New York. The inspecting engineer shall prepare and submit to the Municipality within 30 days of the inspection, a written report of the findings including recommendations for those actions necessary for the continuation of the stormwater control measures.

5. The facility owner shall not authorize, undertake or permit alteration, abandonment, modification or discontinuation of the stormwater control measures except in accordance with written approval of the Municipality.

6. The facility owner shall undertake necessary repairs and replacement of the stormwater control measures at the direction of the Municipality or in accordance with the recommendations of the inspecting engineer.

7. The facility owner shall provide to the Municipality within 30 days of the date of this agreement, a security for the maintenance and continuation of the stormwater control measures in the form of (a Bond, letter of credit or escrow account).

8. This agreement shall be recorded in the Office of the County Clerk, County of _____ together with the deed for the common property and shall be included in the offering plan and/or prospectus approved pursuant to _____.

9. If ever the Municipality determines that the facility owner has failed to construct or maintain the stormwater control measures in accordance with the project plan or has failed to undertake corrective action specified by the Municipality or by the inspecting engineer, the Municipality is authorized to undertake such steps as reasonably necessary for the preservation, continuation or maintenance of the stormwater control measures and to affix the expenses thereof as a lien against the property.

10. This agreement is effective _____.

_____ _____

APPENDIX E

TECsmith

TECSMITH, Inc.
PO Box 383
Elma, New York 14059-0383
Tel: 716-687-1418
Fax: 716-655-3369

Date: July 30, 2015

COMBINED SYSTEM DRY WEATHER FLOW CAPACITY STUDY – Summary Review

Prepared For: 399 Ohio - DS Capacity Analysis

Andrew Marino
Tredo Engineers
755 Seneca Street, Suite 202
Buffalo, NY 14210

Project Name: 399 Ohio St.

Flow Monitoring Period: Node 1 and Node 3 July 17-28, 2015
Node 2 July 20-28, 2015

Dry Week days Monitored: July 20, July 22-24, July 27, July 28
Dry Weekend days Monitored: July 18, July26

Number of Monitoring Nodes: Three (3) downstream manholes

Node Locations and Descriptions:

- Node 1 Chicago and S.Park (15")
- Node 2 Chicago and Scott (20")
- Node 3 Mellenberg-Betz (20")

Summary Conclusion:

Based on the data presented in this report, specifically the flow depth measurements recorded (see graphs below):

- At no time did the flow depth exceed pipe diameter at any of the downstream monitoring points during the dry vents monitored.
- At no time during the monitoring period did the flow at any point slow or stall which would have caused a backup or flooding at the manhole.
- It appears that the sanitary sewer sections monitored have available capacity.
- Also if silt was removed from the system more capacity could be obtained both node 1 and node 2 had over 5 inches of silt in them this silt was layer was compensated for in the flow data.

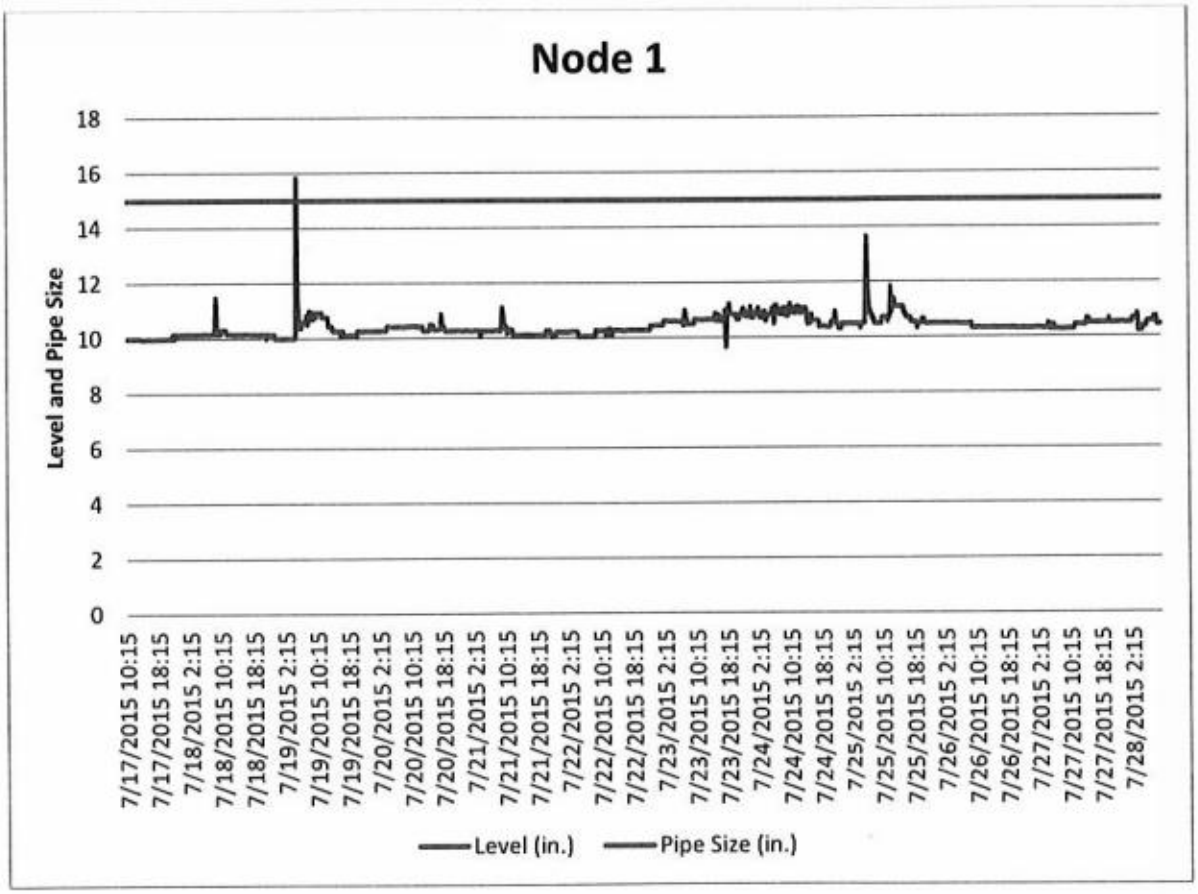
TECsmith

TECSMITH, Inc.
PO Box 383
Elma, New York 14059-0383
Tel: 716-687-1418
Fax: 716-655-3369

Depth of Flow Capacity Summary:

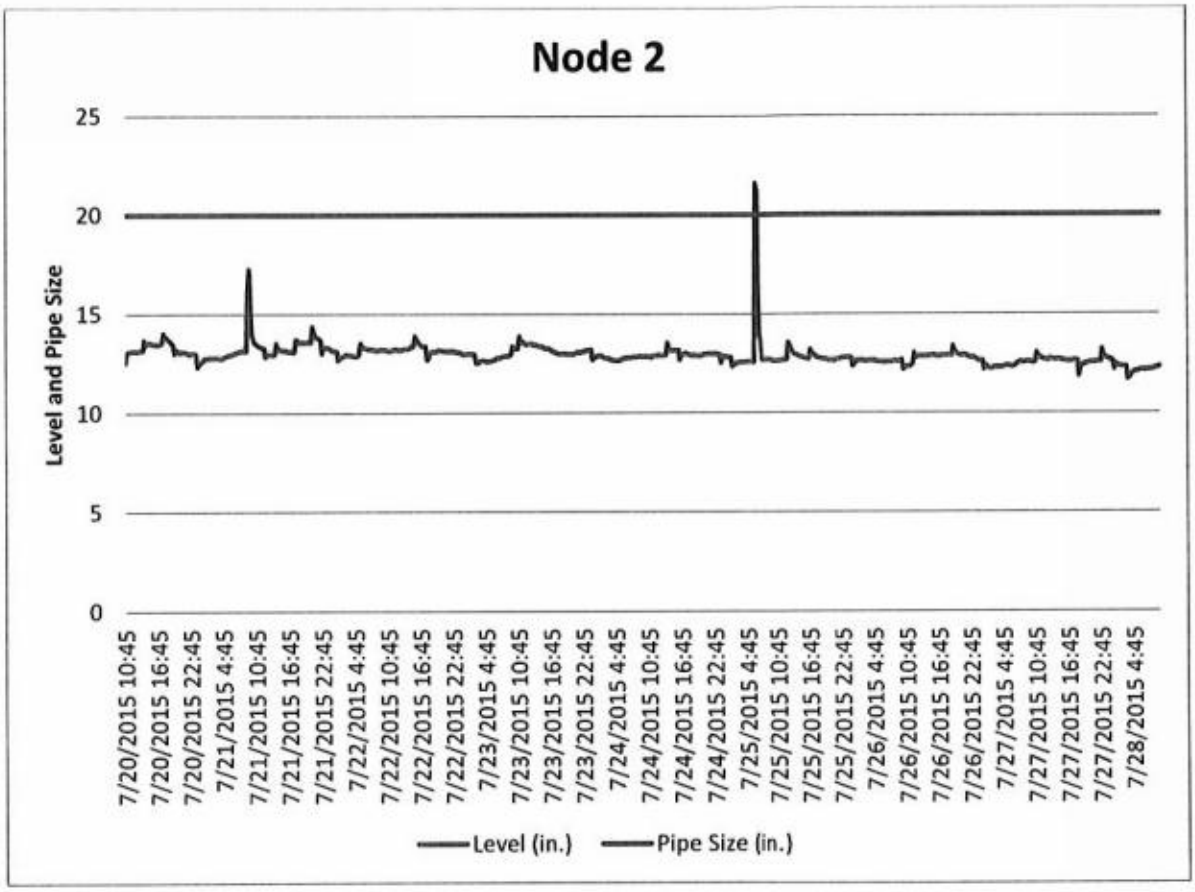
Depth of flow capacity is based on diameter of pipe. See graphs below.

- At no time during the monitoring period did depth of flow exceed pipe diameter at Node 1.



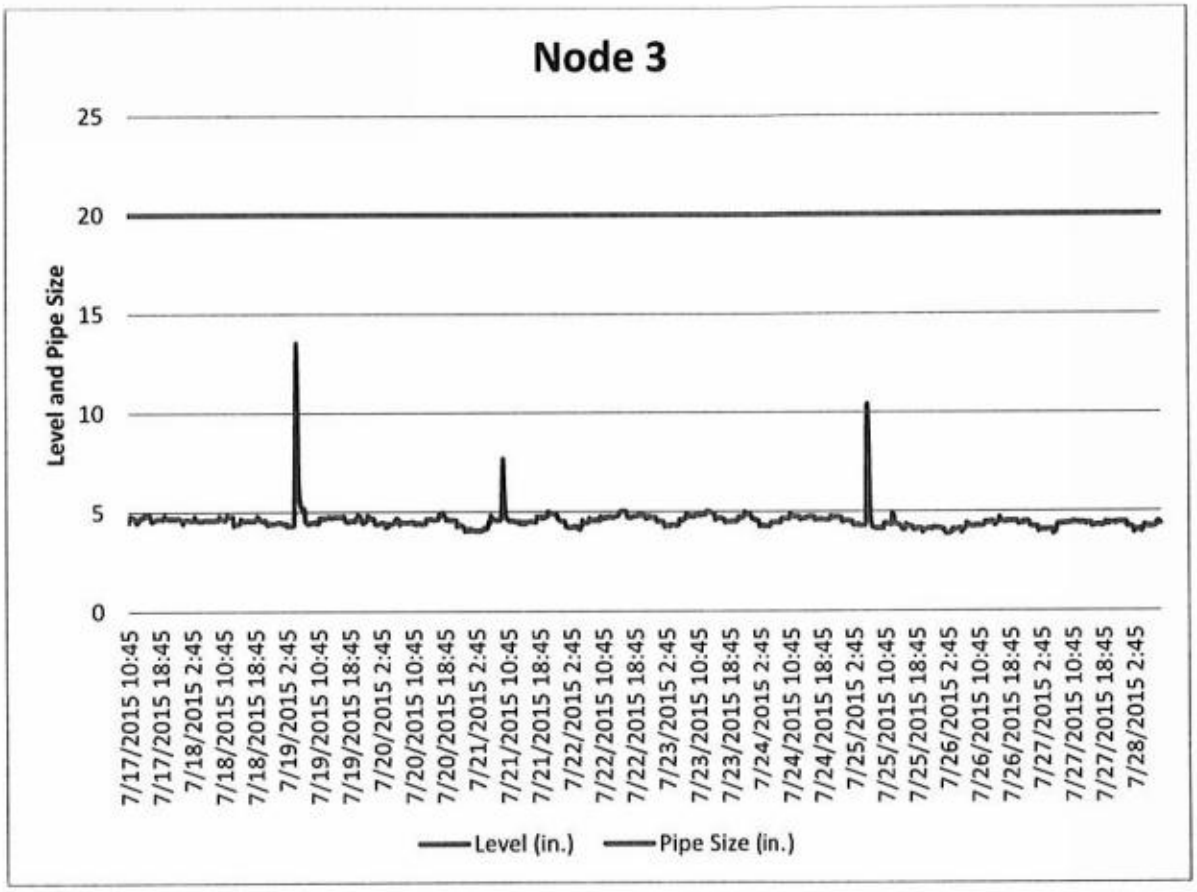
TECSMITH, Inc.
PO Box 383
Elma, New York 14059-0383
Tel: 716-687-1418
Fax: 716-655-3369

- At no time during the monitoring period did depth of flow exceed pipe diameter at Node 2.



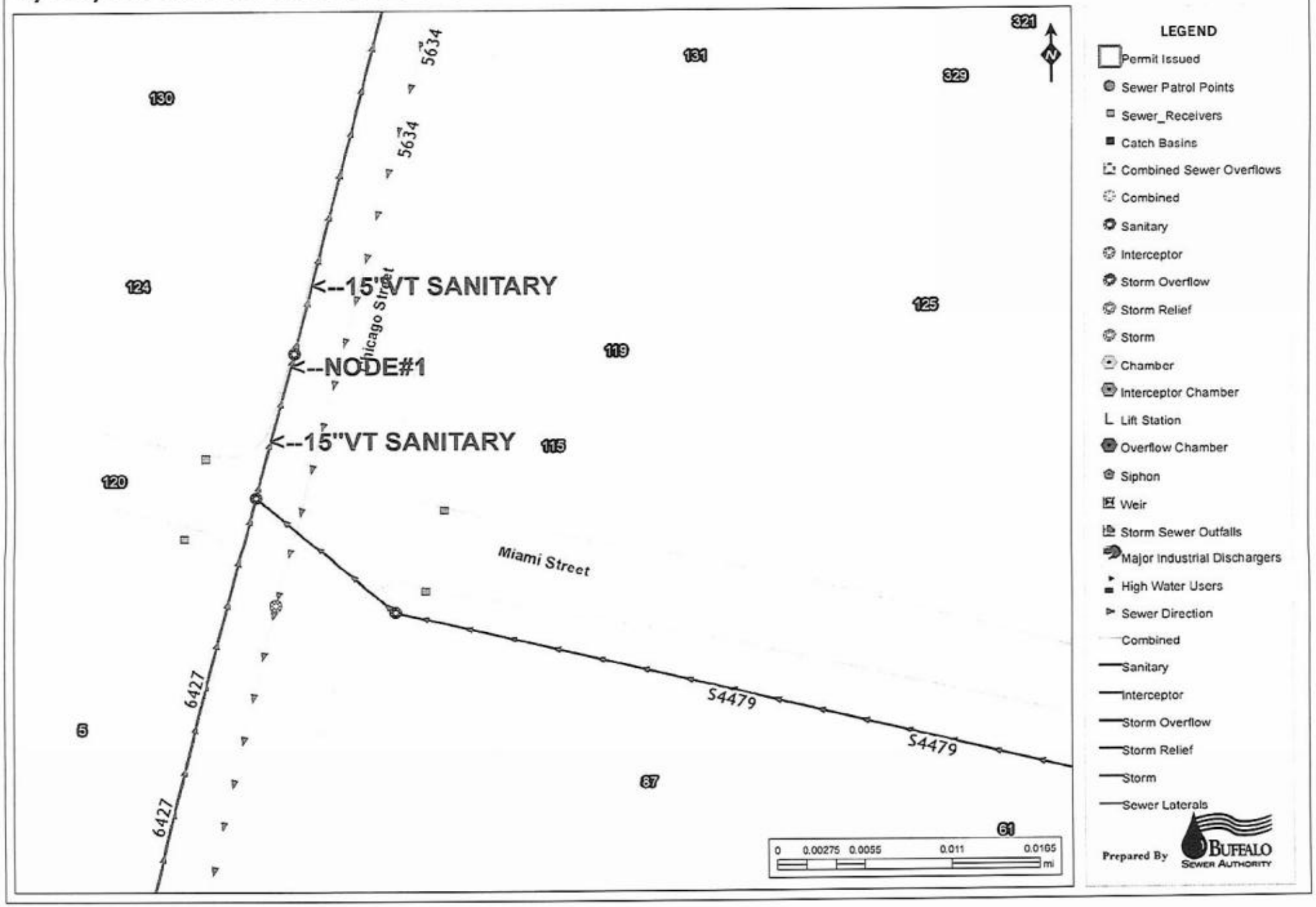
TECSMITH, Inc.
PO Box 383
Elma, New York 14059-0383
Tel: 716-687-1418
Fax: 716-655-3369

- At no time during the monitoring period did depth of flow exceed pipe diameter at Node 3.



6/25/15-#NODE 1 RE: 399 OHIO ST

6/25/15-#NODE 1 RE: 399 OHIO ST



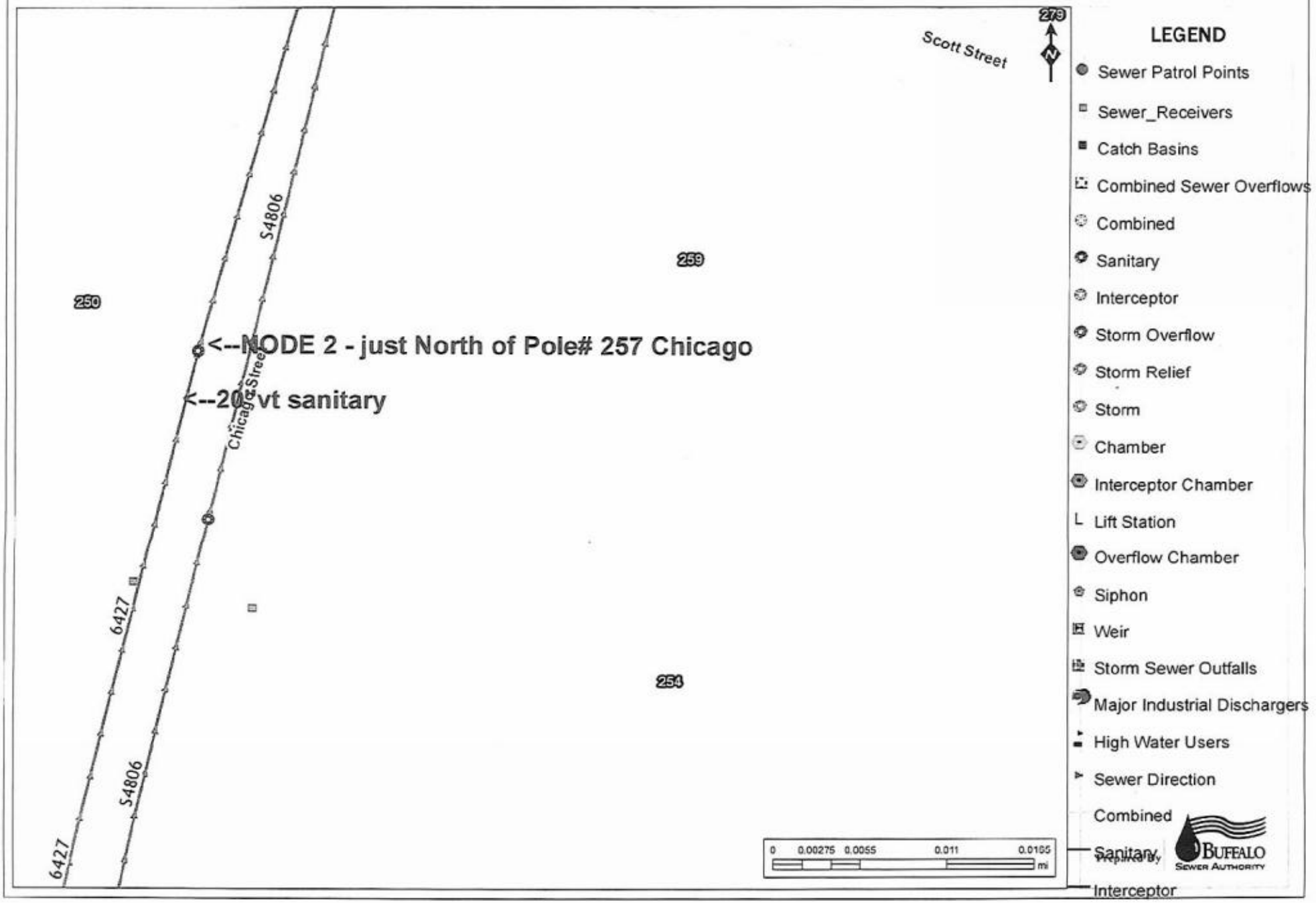
7/17/15- Node Change for #399 Ohio St project

LEGEND

- Sewer Patrol Points
- Sewer_Receivers
- Catch Basins
- Combined Sewer Overflows
- Combined
- Sanitary
- Interceptor
- Storm Overflow
- Storm Relief
- Storm
- Chamber
- Interceptor Chamber
- Lift Station
- Overflow Chamber
- Siphon
- Weir
- Storm Sewer Outfalls
- Major Industrial Dischargers
- High Water Users
- Sewer Direction
- Combined
- Sanitary
- Interceptor

Prepared By: BUFFALO SEWER AUTHORITY

7/17/15- Node Change for #399 Ohio St project



7/17/15- Node Change for #399 Ohio St project

LEGEND

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- Sewer_Receivers
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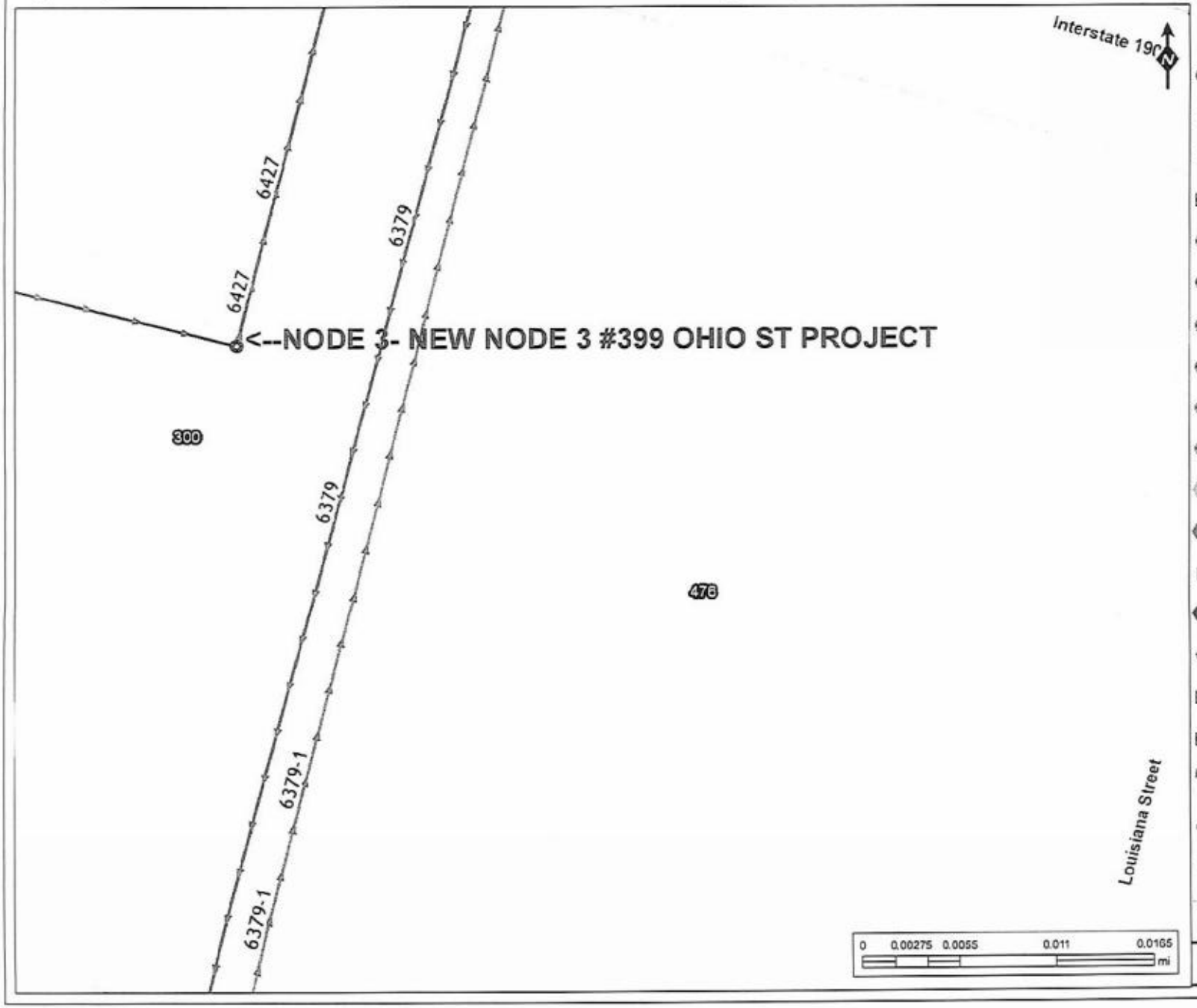
Prepared By: BUFFALO SEWER AUTHORITY

7/17/15- Node Change for #399 Ohio St project



LEGEND

- Sewer Patrol Points
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- High Water Users
- Sewer Direction
- Combined
- Sanitary
- Interceptor

Prepared by: BUFFALO SEWER AUTHORITY

PEAK

Date	NODE 1 Chicago and S. Park (15")			NODE 2 Chicago and Scott (20")			NODE 3 Mollenberg-Betz (20")			Rain (inches)
	FLOW (GAL x 1000)	PEAK FLOW (MGD)	PEAK LEVEL (IN)	FLOW (GAL x 1000)	PEAK FLOW (MDG)	PEAK LEVEL (IN)	FLOW (GAL x 1000)	PEAK FLOW (MGD)	PEAK LEVEL (IN)	
07/17/15	5628.4	0.0806	10.14				201525	0.5068	4.92	*0.02*
07/18/15	33636.6	2.2402	11.48				455721	0.5547	4.86	*0*
07/19/15	11231.3	0.0216	15.83				547622.9	2.4439	13.52	*0.22*
07/20/15	11022.6	0.0126	10.88	173790.1	0.3936	14.02	482989.8	0.6507	4.96	*0*
07/21/15	10580.5	0.0133	11.1	383851.3	0.8018	17.26	441241.4	1.2268	7.67	*0.16*
07/22/15	10605.1	0.0113	10.42	447171.1	0.6455	13.88	498785.3	0.6347	5.06	*0*
07/23/15	11942	0.0136	11.21	436708.5	0.5734	13.86	484167.9	0.6134	5.04	*0*
07/24/15	12246.4	0.0136	11.21	390033.7	0.5261	13.52	453765.9	0.5803	4.91	*0*
07/25/15	12115.4	0.0197	13.63	440453.2	2.2024	21.6	464248.3	1.9326	10.42	*0.07*
07/26/15	11132.2	0.0115	10.49	407358.8	0.5041	13.36	447205.1	0.5396	4.7	*0*
07/27/15	11165.2	0.012	10.65	413988.7	0.5745	13.21	455887.9	0.5449	4.49	*0*
07/28/15	4662.1	0.0125	10.82	157719.5	0.4863	12.69	160014.3	0.4973	4.48	*0*
---										*0.47*

0.6507 → 07/20/15 NODE 3 PEAK FLOW (MGD)

0.6455 → 07/22/15 NODE 2 PEAK FLOW (MDG)

0.0136 → 07/23/15 NODE 1 PEAK FLOW (MGD)

Yellow Highlights are Dry Weather Week Days
Blue Highlights are Dry Weather Weekend Days
Red Highlights Peak Dry Weather Flow

SUMMARY PEAK DAILY FLOW READINGS
PREPARED BY TECsmith, INC. 7/30/15

Note: Rain data from: http://www.nws.noaa.gov/climate/index.php?wfo=buf

Summary - Downstream Sewer Capacity Analysis:

Rule Requirements:

The NYSDEC mandates that proposals which expect to produce sanitary sewage flows of 2500 GPD or greater must undergo the Sewer Extension Approval Process, including review by the Erie County Dept of Health, for the Buffalo Sewer Authority (BSA) for connections to public conveyance and wastewater treatment systems.

Definitions:

Annual Average Daily Flow – the total volume of wastewater flowing into a treatment facility during any consecutive 365 days divided by 365 and expressed in units of million gallons per day (MGD).

Design Capacity – the average daily flow projected for the design year which serves as a basis for the sizing and design of wastewater facilities.

Domestic Wastewater – sewage derived principally from dwellings, businesses, institutions, etc.

Monthly Average Daily Flow – the total volume of wastewater flowing into a treatment facility during a calendar month divided by the number of days in that month and expressed in MGD.

Peak Hourly Flow – the ratio of the Peak Hourly Flow to Design Average Flow per Figure 1 in the Ten States Standards 2014 shall be used to determine the peaking factor.

Permitted Capacity – the treatment capacity for which a plant is approved by the dept. permit expressed in MGD. The permit shall specify the time-frame associated with the permitted capacity.

Three-month Average Daily Flow – the total volume of wastewater flowing into a treatment facility during a period of three consecutive months, divided by the number of days in this period and expressed in MGD.

Description:

Type of Report: Initial capacity analysis on downstream wastewater conveyances within the district, in a pipe reach from the subject parcel. Within the period of study, the measurements taken include daily and weekend durations of dry weather. The theoretical design capacity for each portion of the reach is then calculated, the proposed load added to the average for the period considered, and the resulting percentage of total available pipe capacity is concluded.

Investigation:

Downstream sewer routing and flow meter installation locations, as provided by BSA, and included in Appendix E with the flow data readings, date of flow meter calibration, and technician performing the work, identified in weekly monitoring reports. The readings are taken in three (3) manhole (node) locations indicated thus:

Node 1, 15-inch diameter 'Chicago and South Park Streets'
Node 2, 20-inch diameter 'Chicago and Scott Streets"
Node 3, 20-inch diameter 'Mollenberg-Betz' (company name at manhole location)

Theoretical Pipe Size Capacity (Q):

Using Mannings equation and assumed pipe roughness coefficient (n) of 0.013, area (A), hydraulic radius (R), and a pipe slope (S), (note: 'S' assumed here to provide a minimum cleansing velocity of 2 fps), solve for Q at each node:

$$Q = \frac{1.49}{n} A R^{2/3} S^{1/2}$$

Node 1, 15-inch at S=0.15%: Q = 2.51 cfs =1126 GPM = 1,621,440 GPD = **1.62** MGD
Node 2, 20-inch at S=0.10%: Q = 4.41 cfs =1,979 GPM = 2,849,760 GPD = **2.85** MGD
Node 3, 20-inch at S=0.10%: Q = 4.41cfs =1,979 GPM = 2,849,760 GPD = **2.85** MGD

Meter Read Results + Proposed Loading:

Proposed Population served (P) = 919/1000 = 0.919 (for population in thousands) including residences, estimated office and restaurant loading.
Peaking factor is calculated thus: Q Peak Hourly/Q Design Average = $(18+P^{0.5} / 4+P^{0.5})$ = $(18+0.919^{0.5} / 4+0.919^{0.5})$ = 3.82
Peak Hourly Flow: Peak Factor x Design Daily Flow = 3.82 x 0.033 MGD = 0.126 MGD

Summary Peak Flow Capacities (actual peak dry-weather reading & date):

Node 1, Q Existing flow reading (7/23/15) = 0.0136 MGD / 1.62 = 0.84%;
+ Q Proposed Peak 0.126 MGD / 1.62 = 7.8%; thus **8.6%** of theoretical 15-inch pipe capacity used.
Node 2, Q Existing flow reading (7/22/15) = 0.6455 MGD / 2.85 = 22.6%;
+ Q Proposed Peak 0.126 MGD / 2.85 = 4.4%; thus **27.0%** of theoretical 20-inch pipe capacity used.
Node 3, Q Existing flow reading (7/20/15) = 0.6507 MGD / 2.85 = 22.8%;
+ Q Proposed Peak 0.126 MGD / 2.85 = 4.4%; thus **27.2%** of theoretical 20-inch pipe capacity used.

Conclusion:

Based on the dry-weather readings taken to date, the proposed downstream sewer onveyances appear to be capable of supporting the proposed sanitary sewage loading from this development with reserve capacity.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
APPLICATION FOR APPROVAL OF PLANS FOR A WASTEWATER DISPOSAL SYSTEM

1. NAME OF APPLICANT	2. LOCATION OF WORKS (City, Village, Town)	3. COUNTY
1093 Group, LLC	City of Buffalo	Erie

4. ENTITY OR AREA SERVED: 301-399 Ohio Street

5. TYPE OF OWNERSHIP: ☐ Municipal ☐ Industrial ☐ Commercial ☐ Sewage Works Corp ☐ Private - Home ☒ Private – Other ☐ Private – Institutional ☐ Board of Education ☐ Authority ☐ Federal ☐ State ☐ Interstate ☐ International ☐ Indian Reservation

6. TYPE AND NATURE OF CONSTRUCTION

Collection System	Treatment and/or Disposal
☐ New	☐ New
☒ Additions or Alterations	☐ Additions or Alterations

7. ESTIMATED COST OF CONSTRUCTION

Collection System	Treatment and/or Disposal
$ 12,000	$

8. TYPE OF WASTE: ☒ Sewage ☐ Industrial (Specify) ☐ Other (Specify)

9. NAME OF RECEIVING TREATMENT WORKS: BSA - Bird Island Wastewater Treatment Plant

10. POINT OF DISCHARGE
Surface Water: (Name of Watercourse) Niagara River — Class: A-Special
Ground Water: (Name of Watercourse to which ground water is tributary) — Class:

11. IS STATE OR FEDERAL AID APPLIED FOR?	LOCATION (City, Village, Town)	TYPE OF PERMIT	PERMIT NO.	DATE ISSUED
☐ Yes ☒ No	Buffalo	☐ NYDES ☒ SPDES	0028410	7/1/14

12. NAME OF DESIGN ENGINEER: Edward F. Tredo, PE — NEW YORK STATE LICENSE NO. 060965

ADDRESS: 755 Seneca St. Suite 202, Buffalo, NY 14210 — TELEPHONE NO. 716-876-7147

13. WATER CONSUMPTION (GPD)				
Present	-0-	Future	32930	Design Year 2035
14. POPULATION SERVED				
Present	-0-	Future	919	Design Year 2035
15. AVERAGE DAILY FLOW FOR NEW OR EXISTING TREATMENT WORKS (GPD				
Present	-0-	Future	32930	Design Year 2035

16. SOURCE OF WATER SUPPLY (if private well; give location, type, depth and character of soil): Buffalo Water Authority

17. DESIGN EQUIVALENT POPULATION (BOD Basis): 329.3

Design Flow: 180 MGD GPD — Design Plant Efficiency: 85 %

18. GIVE NUMBER, CHARACTER AND DISTANCE OF ANY BUILDINGS WHICH MAY BE AFFECTED BY THE PROPOSED TREATMENT WORKS: N/A

19. DESCRIBE PROPOSED OR EXISTING STORM WATER DISPOSAL: Proposed runoff discharge to Buffalo River (on-site)

ADDITIONAL INFORMATION MUST BE SUBMITTED FOR PRIVATE AND INSTITUTIONAL SYSTEMS.

20. INDICATE OF U.S.G.S. TOPOGRAPHIC MAP EXACT LOCATION OF SEWAGE TREATMENT WORKS AND ADJACENT BUILDINGS. SHOW LOCATION OF ALL WELLS OR OTHER SOURCES OF WATER SUPPLY WITHIN 200' OF THE PROPOSED WORKS. GIVE DESCRIPTION OF THESE SOURCES AND CHARACTER OF SOIL

N/A

21. STATE DEPTH BELOW EXISTING GROUND SURFACE AT WHICH GROUND WATER IS ENCOUNTERED: +/- 8-ft

22. DESCRIBE SOIL AT SITE OF PROPOSED WORKS. GIVE DESIGN BASIS AND OBSERVED SOIL PERCOLATION RATE DATA (Use additional sheet, if necessary)

N/A

DATE: Feb. 2015

TECHNICAL REVIEW OF PLANS AND SPECIFICATIONS
FOR SEWAGE AND WASTE TREATMENT SYSTEMS

PROJECT DATA

1. Type of Facility: Mixed-use: Residential/Office/Restaurant
   (Treatment plant, interceptor, pumping station, additions, etc.)
2. Location: 301-399 Ohio Street, Buffalo, NY
3. Type of sewer system: COMBINED
   (separate or combined)
4. Population to be immediately served: 33 bedrooms, 86 (est) Office tenants & 800-seat Restaurant
   Design Population: 919
5. Design Period: 20-years
6. Hydraulic Loading

	Present flow (mgd)	Design flow (mgd)
Sanitary sewage	-0-	0.033
Institutional sewage		
Industrial waste		
Infiltration		
Total	-0-	0.033
Minimum flow		0.0005
Maximum flow		0.1435

Engineer's Signature and Seal:

92-15-8(5/77)
Formerly
BMW-65(11/73)

NOTE: All applications must be accompanied by plans, specifications and completed Form BSP-65 (appropriate portions). The submission must conform to a previously approved engineering report describing the system in detail. The plans must be stamped with the designing engineer's seal and must be of sufficient clarity and eligibility to permit satisfactory microfilming. Only white prints will be accepted because of the difficulty of microfilming blue prints. There must be a blank area, at least 4" X 7", in the lower right corner of each sheet so that the approval stamp may be placed on the face of the plans.

Any deviation from the Department's standards for wastewater collection and treatment facilities must be explained in detail.

Approved plans are to be returned to: ☒ Applicant ☐ Engineer

If the application is signed by a person other than the applicant shown in Item 1, the application must be accompanied by a letter of authorization. Failure to comply with this provision may be grounds for the rejection of any submission.

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

Signatures and Official Titles: William L. Ellicott ~ PRESIDENT

Mailing Address: ELLICOTT DEVELOPMENT CO
295 MAIN St. Suite 210 BUFFALO, NY 14220

Date of Application: 7/1/14

REMARKS:

Enclosed $300.00 for ECDOH sanitary sewer connection review

ENGINEERING REPORT - SEWER SYSTEM

Ref.	Point Under Review	Standard	This Project	Remarks
11.	Does the engineering report include a tabular form giving depths and velocities of flow at minimum, average, and maximum daily sewage flows for all sewers proposed?	yes	X	
	If the project is for sewer extensions only, is the engineering report prepared in accordance with section 11.1 and 11.2? The report should state:	yes	X	
	(1) Name and exact location of the treatment plant to which the proposed sewer extensions will be tributary.	-	BSA - Bird Island Treatment Plant	
	(2) Present average daily sewage flow received by the plant.	-	129mgd/86mgd (dry)	
	(3) Design flow and the design year for the plant.	-	180mgd/2034	
	(4) The date when the permit for the plant was issued.	-	7/1/14	

OUTFALL SEWERS

Ref.	Point Under Review	Standard	This Project	Remarks
55.	Is the outfall sewer submerged?	yes	N/A	
	Is the discharge end of the outfall sewer extended into the middle of the receiving stream?	yes	N/A	
	Are diffusion facilities provided?	yes	N/A	

Remarks including explanation of departures from standard practice:

SEWER SYSTEM

Ref.*	Point Under Review	Standard	This Project	Remarks
31.	Is the proposed sewer system separate or combined?	separate	separate	
	Does sewage overflow from proposed intercepting sewers?	no	no	
32.	Is sewer system designed for estimated ultimate tributary population?	yes	yes	
33.	Are sewers sized to meet requirements of sections 32, 33.1, 33.2 and 33.3?	yes	yes	
11.24	What average unit sewage flow (gpcd) is proposed for design?	100 gpcd	100	
33.1	What is maximum diameter of sewers?	8"	6"	
33.2	Are sewers designed deep enough to drain all basements and to prevent freezing?	yes	yes	
33.4	Will all sewers be constructed at or greater than the specified minimum gradient?	yes	yes	
	Does the design comply with requirements stated in subsections 33.4, 33.5, 33.6, 33.7, and 33.8?	yes	yes	
34.	Are manholes designed and specified according to Section 34?	yes	N/A	
34.3	What is minimum manhole diameter?	48"	N/A	
35.	Are inverted siphons, if any, designed in accordance with Section 35?	yes	N/A	
38.	Where water lines are close to proposed sewers, does design protect water supplies according to Section 38?	yes	yes	

Remarks including explanation of departures from standard practice:

6" dia. private sanitary sewer lateral slope at 1.0% minimum - not a public conveyance

* Reference numbers refer to numbers of Sections and Paragraphs of Great Lakes - Upper Mississippi River Board of State Sanitary Engineers 1990 Edition, Recommended Standards for Sewage Works.

<u>SEWER SYSTEM</u>

Location of Sewer (name of street)	Total Length (feet)	Dia. (in.) and Material	Min. & Max. slope (%)	Min. & Max. Depth (feet)	Max. Manhole Interval (feet)	Remarks
301-399 Ohio Street	75	6" PVC	1% & 3%	4.5' & 6'	N/A	private lateral

APPENDIX C

PROJECT DOCUMENTATION FORMS

DAILY LOG	DATE			
	REPORT NO.			
	PAGE		OF	

CORRECTIVE MEASURES REPORT

Date:

Project:

Job No:

Location:

CQA Monitor(s):

Client:

Contractor:

Contractor's Supervisor:

WEATHER CONDITIONS:

Ambient Air Temp. - A.M.:

Ambient Air Temp. - P.M.:

Wind Direction:

Wind Speed:

Precipitation:

Corrective Measures Undertaken (reference Problem Identification Report No.)

Retesing Location:

Suggested Method of Minimizing Re-Occurrence:

Approvals (initial):

CQA Engineer:

Project Manager:

Signed:

CQA Representative

INSPECTOR'S DAILY REPORT

CONTRACTOR			
CLIENT		DATE:	

LOCATION				DAY		JOB NO.	
WEATHER		TEMP	° F	START		END	

WORK PERFORMED:

CONTRACTOR ACTIVITIES:

[PUT CONTRACTOR ACTIVITIES HERE, BE SPECIFIC. TYPE OF EQUIPMENT, ACTIVITIES PERFORMED, BY WHOM, LOCATION OF LANDFILL ETC.]

TURNKEY ACTIVITIES:

[PUT ENGINEER ACTIVITIES HERE, BE SPECIFIC. TYPE OF EQUIPMENT, ACTIVITIES AND TESTING PERFORMED, SAMPLES COLLECTED, BY WHOM, LOCATION OF LANDFILL ETC.]

TEST PERFORMED		*QA PERSONNEL* SIGNATURE			
PICTURES TAKEN	none	REPORT NO.			
VISITORS	none	SHEET	1	OF	

INSPECTOR'S DAILY REPORT

CONTRACTOR			
CLIENT		DATE:	

LOCATION				DAY		JOB NO.	
WEATHER		TEMP	° F	START		END	

INSPECTOR'S DAILY REPORT

MEETINGS HELD & RESULTS:

CONTRACTOR'S WORK FORCE AND EQUIPMENT

DESCRIPTION	*H*	#	*DESCRIPTION*	*H*	#	*DESCRIPTION*	*H*	#	*DESCRIPTION*	*H*	#
Field Engineer						Equipment			Front Loader Ton		
Superintendent			Ironworker			Generators			Bulldozer		
						Welding Equip.			DJ Dump truck		
Laborer-Foreman			Carpenter						Water Truck		
Laborer									Backhoe		
Operating Engineer			Concrete Finisher						Excavator		
						Roller			Pad foot roller		
Carpenter						Paving Equipment					
						Air Compressor					

REMARKS:

REFERENCES TO OTHER FORMS:

SAMPLES COLLECTED:					
SAMPLE NUMBER					
APPROX. LOCATION OF STOCKPILE					
NO. OF STOCKPILE					
DATE OF COLLECTION					
CLIMATOLOGIC CONDITIONS					
FIELD OBSERVATION		SHEET		OF	

DAILY LOG	DATE			
	REPORT NO.			
	PAGE		OF	

PROBLEM IDENTIFICATION REPORT

Date:

Project:

Job No:

Location:

CQA Monitor(s):

Client:

Contractor:

Contractor's Supervisor:

WEATHER CONDITIONS:

Ambient Air Temp. - A.M.:

Ambient Air Temp. - P.M.:

Wind Direction:

Wind Speed:

Precipitation:

Problem Description:

Problem Location (reference test location, sketch on back of form as appropriate):

Problem Causes:

Suggested Corrective Measures or Variances:

Linked to Corrective Measures Report No. *or Variance Log No.*

Approvals (initial):

CQA Engineer:

Project Manager:

Signed:

CQA Representative

APPENDIX D

ELECTRONIC COPY (CD)